

THE Soybean Digest

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HUDSON, IOWA

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IN THIS ISSUE

	Page
Editorials	7-9
Growers	10
Letters to the Editor	11
New Oils by Archer-Daniels-Midland.....	13
Manganese-Deficient Soils in Indiana.....	14
JOE E. STECKEL	
Insecticides for Soybean Caterpillars.....	16
WALTER M. KULASH	
Production Studies in Indiana	18
F. A. FRANK	
Soy Foods in East Asia	22
H. W. MILLER	
Ohioans Given Yellow Margarine	24
June Soybean Crop Report	25
Meeting of Grain Inspectors	28
Publications	30
Grits and Flakes	32
Washington Digest	36
PORTER M. HEDGE	
Market Street	37
Hearings on Grain Standards	38
In the Markets	40

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JUNE, 1948

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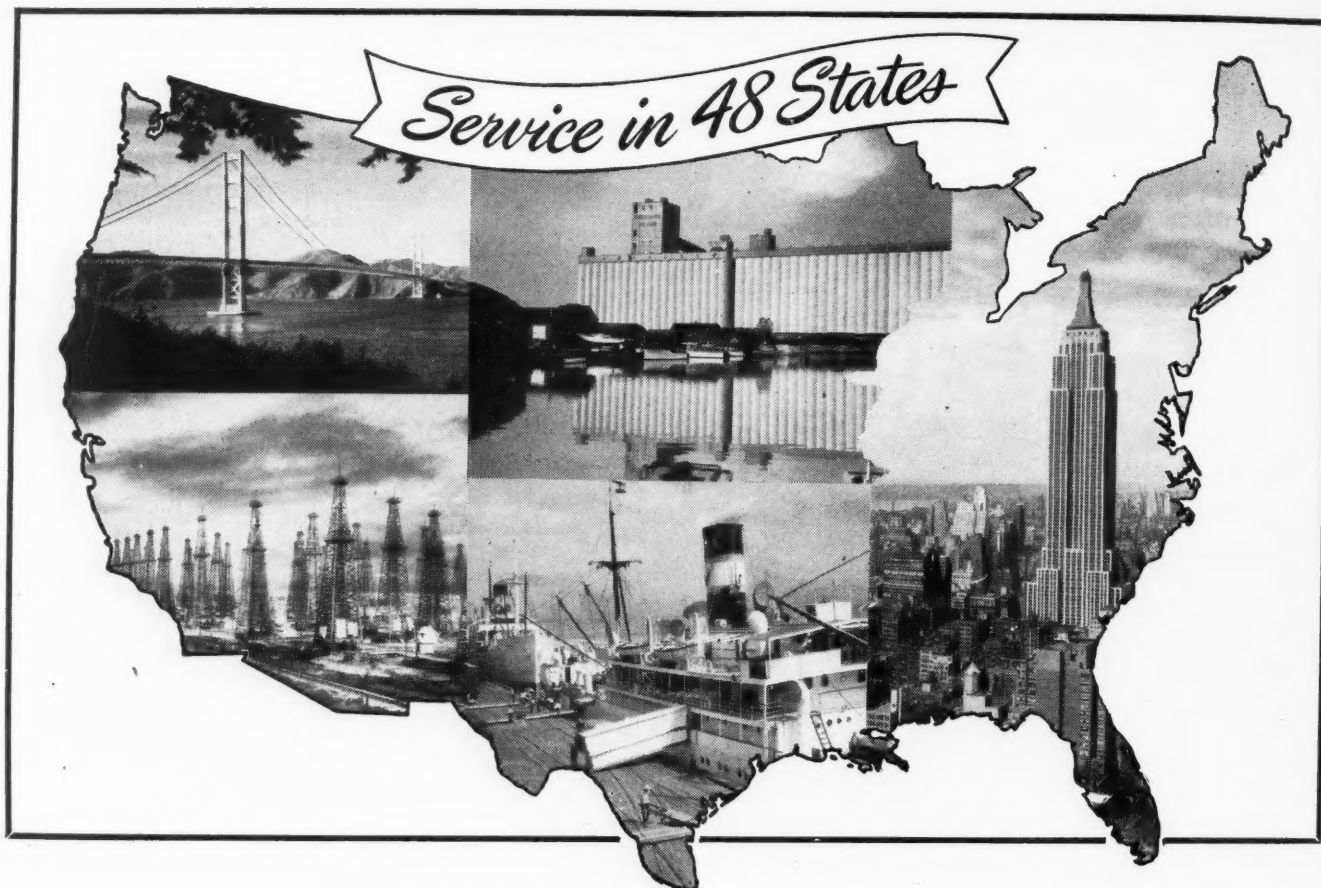
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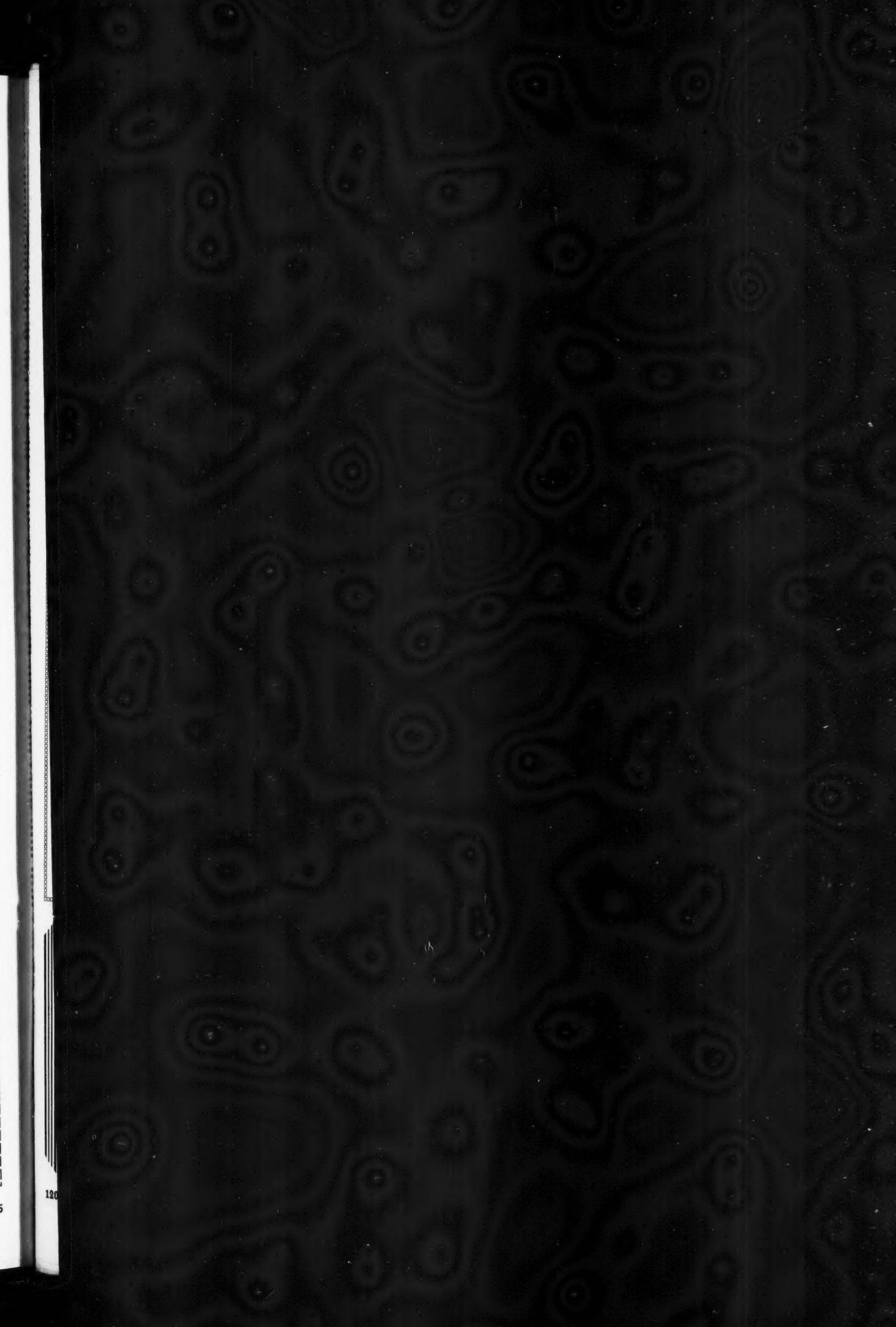
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EDITOR'S DESK

Your 28th Convention

The 28th annual convention of the American Soybean Association, scheduled for Memphis, Tenn., on September 13, 14 and 15, promises to be one of the largest and most interesting of all meetings held by the group. Soybean leadership from throughout the world is being lined up for speakers and leaders. Foreign countries are intensely interested in our crop and the possibilities of securing soybeans or soybean products.

Southern hospitality in the traditional style will permeate the entire meeting. You will be entertained as well as educated! The host city, the Memphis Merchants Exchange, the National Cotton Council, many other civic and service groups, as well as commercial organizations, have offered their services in every way possible.

Plan now to make a combination business trip and vacation out of the 28th annual convention. And it is not too early to make your reservations for hotel accommodations. Write direct to the Hotel Peabody, tell them the date of arrival, and ask for the type of accommodations desired.

To save as much time as possible for convention attendants the meetings in Memphis will be held on Monday and Tuesday, the field trip on Wednesday. Persons driving their own automobiles and heading northward will have a good start toward home at the conclusion of the tour in the Arkansas Delta section.

DRAW A BLUE LINE AROUND THE DATES—SEPTEMBER 13, 14 and 15. Plan now to attend.

Stood Up to Be Counted

In a legislative activity such as the margarine repeal battle there are always men who come to the foreground because of their foresight, their zeal, their willingness to assume responsibility for leadership. This battle was no exception.

From the Midwest area, where soybeans reign as the second largest cash grain crop, two men have distinguished themselves as true friends of the soybean producer. In the House of Representatives the amendment to place the Rivers Bill on a domestic fats basis was introduced by Congressman Ralph Harvey of Indiana. A newcomer to the halls of Congress, Congressman Harvey is a farmer, maintains a dairy herd, and grows soybeans. He has been close enough to agriculture during recent years to know the true situation, and to recognize trends. He was not led blindly by dairy interests, but chose to make his own decisions. He is a man to watch during coming sessions.

In the Senate Scott Lucas of Illinois distinguished himself as a true friend of the soybean producer. A member of the finance committee of the Senate, Lucas consistently championed the cause of the grower of soybeans who needs the margarine market on a tax-free basis. He was the one man from the Midwest territory who had the courage of his convictions and was willing to stand up and

be counted for what he knew was right. He, too, is to be commended.

The soybean producers of the Midwest area will not forget these two men!

Hearings on Standards

Hearings on proposed changes in the federal soybean grading standards have been called by the grain branch of the Production and Marketing Administration for June 23 through 30. Requested by the two grain dealer organizations in the state of Illinois, together with the Illinois Agricultural Association, the hearings will consider three proposals which are outlined on page 38 in this issue.

It must be remembered that the announcement of hearings does not constitute announcement of changes in the standards. All changes must be announced at least 90 days prior to the date they become effective, hence the earliest possible date that changes might be instituted would be about November 1, 1948. By that date the 1948 crop will be quite largely in the hands of dealers and processors. To change standards in the middle of a season would not seem logical. To seriously consider changes which are needed and then institute those changes at the beginning of the following crop movement season would seem to have greater merit.

SEPTEMBER 1948

SUN	MON	TUE	WED	THU	FRI	SAT
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

No Processed Goods for ERP

Hopes of processors of farm products that the European Recovery program would supply added markets to them seem ill-founded. Finished products are not going to be exported. Raw materials will take precedence, including agricultural raw materials such as wheat, soybeans, other commodities which will provide work for industry in the recipient countries.

Shipment of finished goods, in spite of protests of processors of agricultural products, would merely make a relief program out of ERP. The nations of Europe need not relief, but recovery. They must have raw materials to process. Present plans call for shipment of only about 5 percent of total needs of raw materials from this country. But that 5 percent will supply the spark to motivate the entire industry of the nations. Recovery will result. Administration of the program appears in sound hands.

Will Affect Fat Market

A development of recent years which should be closely watched by the soybean industry is the marketing of synthetic detergents. Sold under a variety of names by nearly all the major soap manufacturers, the synthetic detergents, according to the best figures available, have already taken over 10 to 15 percent of the soap market.

Soybean oil is not used in soaps in any quantity. But it does compete on the fats and oils markets with oils which go into the soap kettle. The price of those oils very definitely affects the price on soybean oil. The loss of a major market for inedible fats definitely affects the edibles. If the trend continues the fats and oils picture may change materially within the next 5 years.

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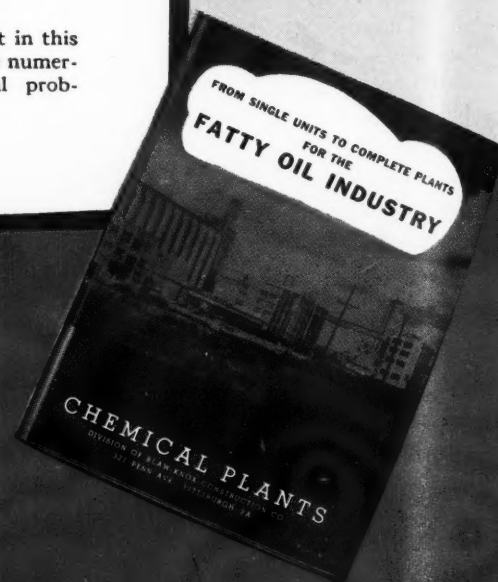
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RIVERS BILL REPORTED OUT WITH AMENDMENT

Brief hearings on HR 2245, the Rivers Bill which would repeal all Federal taxes and license fees on the manufacture, distribution and sale of margarine were held by the Senate finance committee May 17 and 18. Ersel Walley, president of the American Soybean Association, and Geo. M. Strayer, secretary, appeared before the committee and testified in behalf of an amended bill which would have removed the tax only on yellow margarine made from domestically produced fats and oils.

One day of the hearings was devoted to the supporters of change in the margarine laws, the second day was allocated to the opponents of change. The committee immediately considered the bill, added an amendment designed to control the serving of margarine in public eating places, and reported it to the floor of the Senate with suggestion it be passed.

At this writing it appears that the bill may become buried in the maze of activity at the end of the session, receive no action in the Senate in time to go to the conference committee (if the amendment is on the bill passed by the Senate) and then receive the President's signature. If the bill is lost in adjournment, which is tentatively set for June 19, the entire labors of the cotton industry, the soybean industry, the margarine manufacturers, all others who have worked diligently for repeal, will be lost. Every possible effort is being made to forestall burial in last-minute technicalities, but the spectre of inaction hovers in the horizon.

Whatever the outcome of the bill in the Senate, one thing was apparent. The plane upon which the hearings sponsored by the Senate finance committee were held was so far above the circus antics of the committee on

agriculture of the House of Representatives that there is no comparison. It seems apparent that new leadership is needed in House agricultural circles. June primaries and November elections afford the opportunity to place men of responsibility in our legislative halls.

American agriculture is not being adequately represented in Congress today. We need agriculturists in Congress to represent agriculture. Today's members of the House and Senate are largely lawyers.

Why of Oil Spread?

Strange developments have taken place in the market quotations on edible fats and oils during recent weeks. Relative prices of soybean oil, cottonseed oil and coconut oil are shown on the graph below. As late as February 20 the prices on all three commodities were almost identical—the spread was not significant.

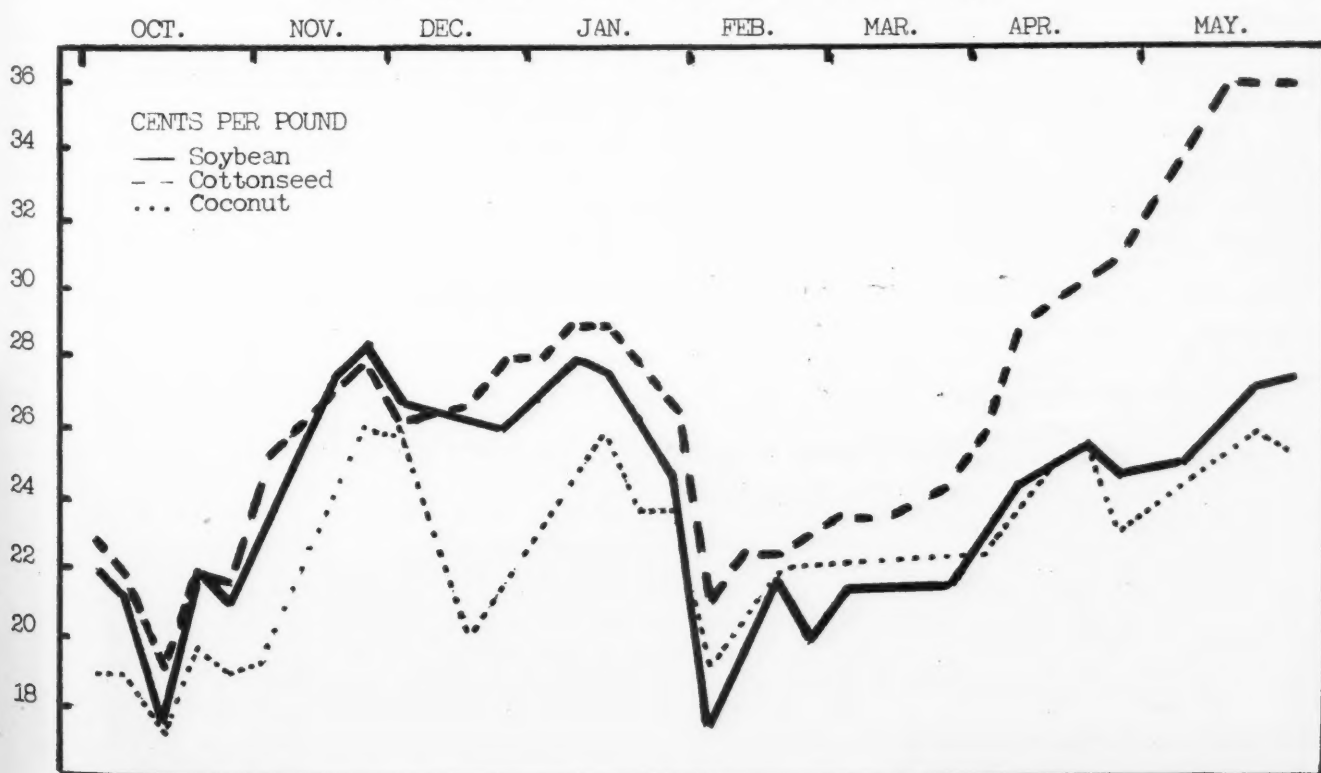
Then cottonseed oil started moving upward at a faster rate than the other two. By the end of May soybean oil had worked upward about 6 cents per pound. Cottonseed oil had worked upward to nearly 40 cents!

The edible oils are largely interchangeable in usage. When one moves upward the others follow. Similarly, downward movements are sympathetic.

But not in this case. If soybean, coconut and cottonseed oil were all three of approximate equal value February 20, why were they not of equal value on May 31?

Market manipulation seems to be the answer. Supplies were short. Certain companies were better buyers than others, owned the major portion of available supplies, cornered the market. Other buyers were caught short. The situation will soon change again.

CRUDE VEGETABLE OIL PRICES, (TANK CARS) OCT-MAY



—Based on figures supplied by Bureau of Agricultural Economics.

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GROWERS

Mississippi Delta

Early varieties, such as S-100 and Gibson, should be planted early in the season for best results in the Yazoo-Mississippi Delta, report Paul R. Henson and Robert B. Carr in *Mississippi Farm Research*.

Their conclusions are based on variety tests at the Delta Experiment Station.

The most striking effect of time and planting has been exhibited by the early-maturing varieties. Yields, maturity, height, and percent oil and protein were all influenced by time of planting to a much greater degree than with the later-maturing variety groups. Very good yields, highest of all groups, were secured both years from the April planting of the early-maturing varieties; the yields of these varieties were significantly and progressively reduced by late May and mid-June plantings.

Average yield of early varieties planted April 21 at Stoneville in 1946 and 1947 was 32.1 bushels per acre; but the yield of early variety plantings on June 15 was only 16 bushels.

In contrast to the yield response of the early varieties to time of planting, the yield of the late May plantings of the later-maturing varieties were equal to those of the April plantings. In general, the June plantings resulted in lower yields, but the differences in yield between late May and mid-June plantings became progressively less with the later-maturing varieties.

These results indicate the importance of planting early varieties, such as S-100 and Gibson, early in the planting season for maximum yields in the Mississippi Delta section.

Where growers are interested in growing several varieties of different maturity to spread the optimum harvesting period, the varieties should be planted in order of maturity. Medium-late and late varieties such as Roanoke and Volstate, or Mamotan and Mamloxi, can be planted much later in the planting season without greatly affecting yields or maturity.

The order of planting of recommended varieties would be in the following order: (1) S-100, (2) Ogden, (3) Roanoke or Volstate, (4) Mamotan or Mamloxi.

Bean Leaf Beetle

The bean leaf beetle has become a serious soybean pest in Mississippi County, Ark., northeast Arkansas and southeast Missouri the past 2 years.

This was pointed out in a letter from the Soybean Planning Committee of Mississippi County to the University of Arkansas College of Agriculture. The letter urged appropriate research on the pest this summer.

"You no doubt know that Mississippi County has become the major soybean growing county in the South," stated the letter,

signed by George Hale, chairman of the soybean planning committee. "According to the census data this county was 65th of the nation's soybean producing counties in 1939. By 1944 it ranked 23rd. Then in 1946 the county reached 10th, with a total of 2.1 million bushels.

"For the past 2 years the bean leaf beetle has been a serious pest to soybeans in this county, northeast Arkansas and southeast Missouri. From what we can find out this is the first place in the soybean belt where this pest has become destructive enough on soybeans to warrant poisoning. This past summer farmers of this area put out 160,000 pounds of 5-percent DDT on approximately 16,000 acres of soybeans between August 10 and 25.

"Recently in a Soybean Planning Committee meeting, our farmers took a grave view of this problem. Some think that farmers in this area will be forced out of this most desirable part of our cotton-soybean rotation if the pest continues. The result from dusting is a question. When to tell a farmer, 'It would pay you now to poison,' is a big question in the minds of extension workers.

"We of the Soybean Planning Committee request the College of Agriculture to conduct appropriate research this summer on this important pest. We look to the College and extension service for such assistance and feel this warrants immediate attention."

Walley to Europe

Ersel Walley, president of the American Soybean Association, Fort Wayne, Ind., sailed from New York May 26 for a 3-month tour of Europe. Countries visited will include France, Italy, Austria, Germany, Holland, Denmark, England and Scotland.

He will make a study of possible markets for U. S. soybeans and soybean products in these various countries while abroad.

Walley, who is president of Walley Agricultural Service, Inc., will edit the regular *Monthly Farm Business Letter* of his firm from Europe this summer. We are also hopeful that we may be privileged to carry some dispatches from our president telling of European conditions as he sees them.

ERSEL WALLEY



SOYBEAN DIGEST

Flax vs. Soybeans

How flax has become an increasingly better crop for upper Midwest farmers was told by Thomas L. Daniels, president of Archer-Daniels-Midland Co.

He spoke at the first Minneapolis market forum designed to eliminate misconceptions and misinformation about the grain marketing system.

Daniels, chairman of the flax development committee of the United States, pointed out that:

Of all major crops grown in 1947 in the six upper Midwest states where the Flax Institute functions, the yield per acre in flaxseed shows the greatest improvement as compared with the 20-year average. Soybeans showed a decline in this area last year.

The flax increase, he added, was brought about by educating farmers as to the proper methods of planting.

Daniels gave the following figures in comparison of the 1947 yield with the 20-year average for flax grown in Minnesota, the Dakotas, Iowa, Wisconsin and Montana.

Crop	20-yr. Avg. (bu.)	1947 Yield (bu.)	Percent of Average
Flax	7.4	9.5	128.4
Spring wheat	11.9	14.3	120.2
Rye	12.1	13.8	114.0
Barley	21.8	22.9	105.0
Oats	32.6	34.4	105.5
Corn	35.6	31.6	88.8
Soybeans	17.2	14.9	86.6

(The average increase in yield for the six grains other than flax in 1947 was 3.3 percent compared to the 1928-47 average.)

Daniels said that flax grown in Minnesota and North Dakota, which formerly yielded a pound less of oil than Argentine flaxseed, now produces a comparable amount and is priced in the world market equal to Argentine flaxseed.

Double Rows

Several years of trial have convinced Alvin Larson, Nobles county, Minn., that he can get bigger soybean yields by planting in double rows spaced 35 inches apart, reports *Capper's Farmer*.

That method of seeding permits him to plant four rows at a time with a standard 22-hole grain drill. He stops an outside hole, leaves two holes open, stops the next four. He continues that pattern across the drill. He finishes by stopping the end hole at the opposite side.

He says he drives a wheel of the drill in the track made on the last round. That spaces all rows the same distance apart.

"The paired rows are so close together that they shade out weeds," he said. "The double row is as easy to cultivate as a single row. I planted 75 pounds of seed an acre 2 years ago; 90 pounds last year."

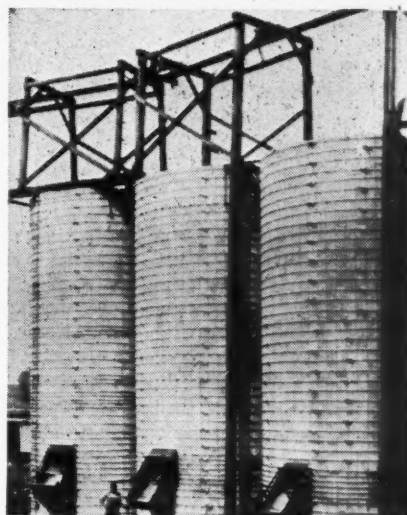
Doubling the rows probably permits exposure of more bean leaves to the sun. Drilling in 7-inch rows results in shading lower leaves so much that drilled soys make no more than those planted in single 36-inch rows.

Contoured Beans

If you get a chance this summer, compare a field of soybeans growing on the contour with a field planted up and down the slope.

If the soil is about the same in both fields, you'll notice two things: (1) The beans on the contour will show better growth and, (2) There will be less evidence of soil erosion.

At the University of Illinois College of Agriculture, research workers compared beans on the contour with beans planted up and down the slope.



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LETTERS TO THE EDITOR

TO THE EDITOR:

This May issue is worth the price of a year's subscription. This publication gets better all the time. Congratulations for this

fine work. Only wish we had such material for each of our farm crops. We farmers have been and are still lax in the matter of factual information in our farming business.
—J. E. Johnson, Champaign, Ill.

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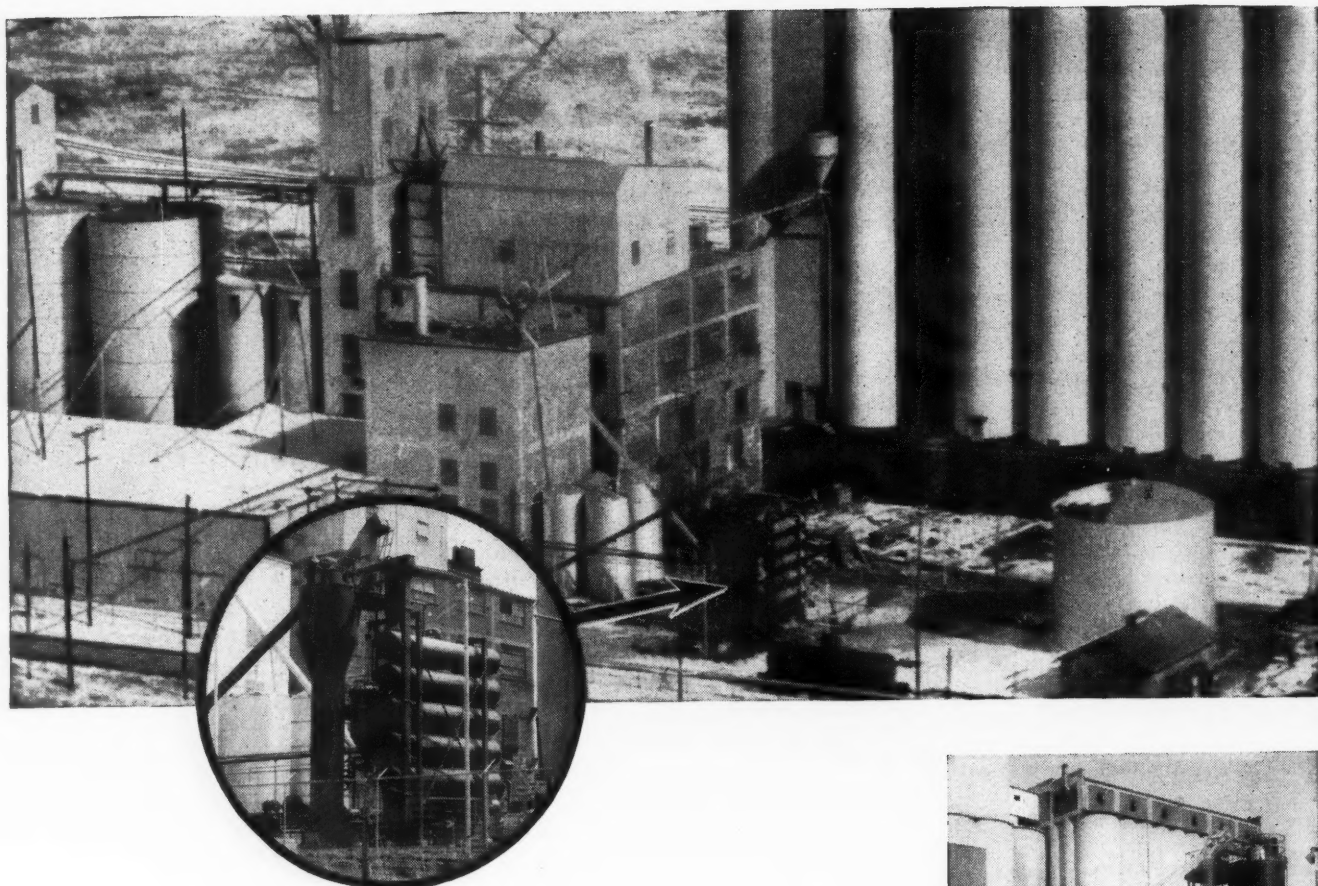
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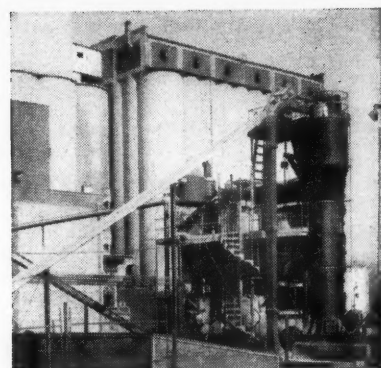


Still Another... ANDERSON SOLVENT EXTRACTION UNIT

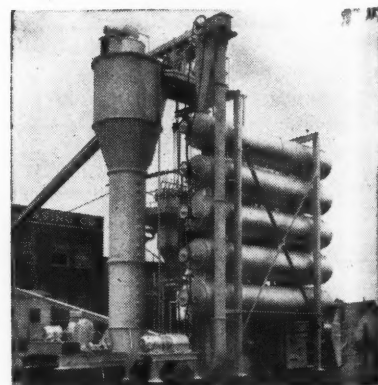
Here is still another Anderson Solvent Extraction Unit, installed and operating at a Dannen Mills, Inc. Plant at St. Joseph, Missouri.

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A view of Soyex Corporation, Columbus, Ohio installation of an Anderson Solvent Extraction Unit



Anderson Solvent Extraction Unit installed at Wooster, Ohio

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EQUIPMENT

New Oils by Archer-Daniels-Midland Co.



T. L. Daniels, president of Archer-Daniels-Midland Co., explains the advantages of the new Admerols to N. P. Delander, vice president of the First National Bank, St. Paul, at the open house to announce the new oils.

Introduction of four revolutionary oils that are entirely new in their concept and use in the paint, varnish and protective coating industry is announced by Archer-Daniels-Midland Co. laboratories at Minneapolis, Minn., through T. L. Daniels, president of the company.

These entirely new oils, first of a series to be known as Admerols, are fundamentally produced from linseed and soybean oils as the glycerides or fatty acids reacted with such new materials as butadiene, styrene, pentaerythritol, cyclopentadiene, acrylic acid, sorbitol and many other war-born chemicals.

The Admerols are distinguished from regular linseed and soybean oil products by unusually fast set and through dry, low acidity, excellent stability, high gloss and color retention, all of which qualities are of paramount importance to the paint and varnish formulator, Mr. Daniels explained.

"Because of the new concept of manufacture, the Admerols are absolutely unrivaled in uniformity," he said. "To sum it up, these four products give the paint manufacturer a material that is more economical to use than anything else on the market. They will make it easier for him to produce paint with the equipment ordinarily available. The Admerols result in paints that are easily applied by both the amateur and professional painter and yet produce a surface that will stand many cleanings and washings."

The Admerols are products of 5 years of intensive research in the laboratories of ADM and the development of an entirely new system of manufacturing.

Through the cooperation of the technical and engineering departments of ADM, new and unique equipment was devised so that results of the laboratory work could be transferred to actual and practical plant production. In December, 1947, a large unit was put into operation in Minneapolis. Late last month a second identical unit went into production at Edgewater, N. J.

Descriptions

Following are descriptions of the new oils:

Admerol 101—For use in the manufacture of semi-industrial enamels, floor enamels and baking enamels as well as primer sealers over metal and wood. It combines fine color and color retention with excellent alkali resistance to a degree never before possible at any comparable cost, according to ADM chemists.

Admerol 251—For manufacturing exterior trim and trellis paints. Admerol 251 will provide unusual toughness and is highly resistant to wear and weather.

Admerol 301—For use in the manufacture of architectural enamels where color and color retention are of extreme importance. Admerol 301 properties further

include fast, thorough dry and good brushability.

Admerol 351—For use in the manufacture of fast, hard drying floor and deck varnishes, floor and deck enamels. Admerol 351 is a general purpose vehicle that combines economy with all around high quality; low pigment reactivity; tough, hard dry; good alkali and water resistance and superb uniformity.

— s b d —

ON TOUR OF ORIENT

To add to this country's knowledge of processing and preparing soybeans for food, Dr. Allen K. Smith of the oil and protein division, Northern Regional Research Laboratory, Peoria, Ill., has left the United States for a 3-month investigation that will have covered Japan, Korea, and China before he returns next August. This extension of the Northern Laboratory's soybean research program has been made possible through provisions of the Research and Marketing Act. The information obtained will be the basis for studies on making soy food products more acceptable as a high-protein source in the American diet.

Dr. Smith expects to investigate also soybean varieties for various food uses, to discover new products prepared in Oriental kitchens, and to collect cultures of bacteria, yeasts, and molds used in developing soybean products. Of particular interest, in line with the Northern Laboratory's research, will be a study of Oriental methods of modifying and improving the flavor of soy foods.

Although Dr. Smith is taking with him a formidable list of Oriental products which he expects to sample, he fully expects the list to be greatly extended by the time of his return.

A. K. SMITH





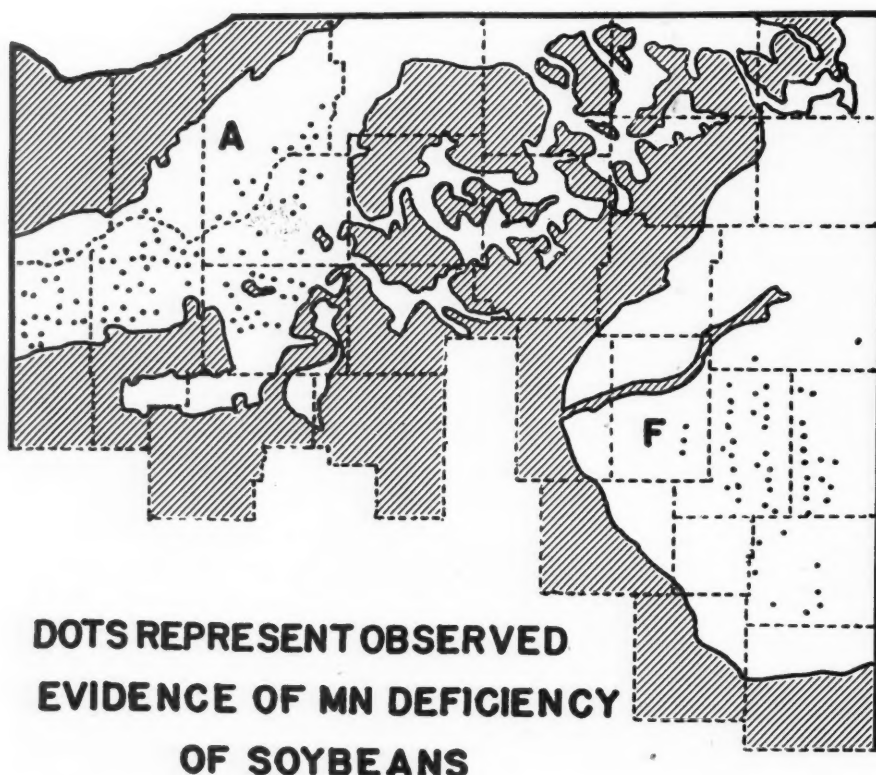
—USDA photo

Figure 1—Light streaks in field are from manganese deficiency. Spray application of manganese sulfate increased yield 5 bu. per acre. Elburt Place Farm, Walkerton, Ind.

IN INDIANA

By JOE E. STECKEL¹

Figure 2—Map of northern Indiana where evidence of manganese deficiency was observed on soybeans in July 1946. A and F refer to general soil regions. (after Bushnell)



FARMERS in northern Indiana have been puzzled for several years by the yellow, sickly appearance of soybean plants in scattered spots on their fields. (See figures 3 and 4.) Frequently, these spots occurred in strips adjoining the roads and conformed to the area affected by the limestone road dust sifting out across the fields before the day of improved roads.

Farmers usually have diagnosed the trouble as nitrogen deficiency due to acid soil conditions or poor inoculation of the seed. But nitrogen deficiency of soybeans results in a uniform yellowing of the leaves, while these in the earlier stages were still streaked with green along the veins of the leaves. This yellowing effect couldn't very well be potash deficiency because potash-starved plants usually yellow from the margins of the leaves inward.

Tests of the soil for acidity showed it to be "sweet" with pH 6.5 or higher, which is very good from the standpoint of acidity for growing soybeans. The real cause did seem to be associated with slight over-liming as the symptoms were seldom if ever found on these soils at a pH of 6.2 or lower.

Apparently, here was a new mineral de-

¹Formerly graduate fellow at Purdue University on fellowship supported in part by funds from the Tennessee Corp. Now ass't. prof. soil technology, Penn State College, State College, Pa.

deficiency in Indiana. Dr. A. J. Ohlrogge, Dr. F. A. Frank, and George Enfield of the agronomy department of Purdue University suspected that the trouble was due to a lack of available manganese. They sprayed some of these sickly soybeans with manganese sulfate at the rate of 10 pounds per acre. They observed the treated plots in 3 to 5 days and found the transformation to be almost unbelievable. To their surprise, the sprayed soybeans now were healthy looking, dark green plants, while their untreated neighbors were still yellow.

Early in 1946, a study was initiated to measure the response of soybeans to manganese in northern Indiana. A field experiment was laid out near Walkerton, with various rates and methods of application of manganese and other minor elements. At six other locations, manganese sulfate was sprayed on the young soybean plants at the rate of 10 pounds per acre. It was dissolved in about 100 gallons of water. All these experiments were conducted on fields where previous poor yields of soybeans indicated some nutritional trouble.

The results of the experiments proved that these yellow-leaved beans would respond to soil or spray applications of manganese sulfate. The response from soil application of the manganese (figure 4) increased the soybean production up to 15 bushels more than the untreated yield of 16 bushels per acre. In the same experiments spray applications were equally effective for increasing production.

Spray applications of manganese sulfate in widely separated areas of northern Indiana have yielded from 4 to 16 bushels per acre more than the untreated soybeans. The cost for material and spraying amounts to about \$3 per acre at present prices. Figure 1 shows a rapid and effective method of spraying soybeans with manganese sulfate after the deficiency shows up in the growing crop.

A survey of manganese deficiency in soybeans in northern Indiana in 1946 showed the deficiency to be confined within two general soil regions (figure 2.) In the Kankakee River Valley area (soil region A), the soils are very dark in color and sandy or loamy in texture. In the northeastern Indiana general farming area (soil region F), the soils are very dark in color and have a silty clay or heavy texture. In both regions, these soils have had in the past a high water table, and drainage has been necessary before crops could be produced. In every case, soils on which experiments were conducted had pH values ranging from 6.5 to 7.5.

The results obtained from these experiments have led the Purdue University agronomy department to recommend the use of manganese sulfate for soybeans planted in fields which previously have shown evidence of the deficiency symptoms. Twenty-five pounds of commercial manganese sulfate should be mixed with the quantity and



—USDA photo

Figure 3—Soybeans show marked symptoms of manganese deficiency. Either soil or spray applications of manganese sulfate would have corrected this deficiency.

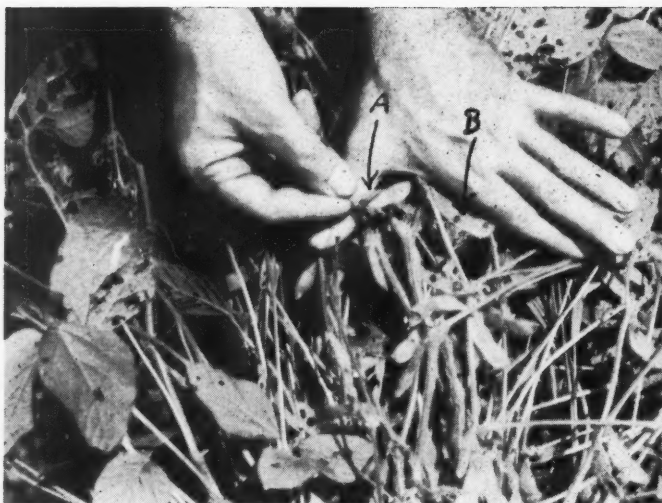


Figure 4—Manganese deficiency in soybeans corrected by soil application of manganese sulfate drilled alongside the seed row at planting time. Untreated yield was 15 bu. per acre; the yield after application of 100 lbs. of manganese sulfate per acre was 30 bu. Hayter Bros. Farm, Walkerton, Ind.

analysis of fertilizer which is usually applied to each acre of soybeans planted in the deficient area. The mixture should be applied to the side of the seed in the row at planting time with the divider type of fertilizer attachment. If no commercial fertilizer is applied to the soybeans at planting time, 100 pounds of manganese sulfate applied to the side of the seed is necessary to correct the deficiency; therefore, it is more economical to mix the manganese with the starter fertilizer. In those instances where

manganese deficiency symptoms appear after the plants have emerged, a spray application of 10 pounds of manganese sulfate (spray grade) dissolved in 75 gallons of water may be applied per acre and will correct the deficiency in 3 to 7 days.

Thus, a new problem in soil fertility has been discovered and solved for the Indiana farmer. Recognition of the deficiency symptoms and timely application of a small amount of manganese sulfate at a small cost will correct the trouble.



At left are untreated soybeans. A corn earworm is shown at A, and injury to the pod by the earworm at B. At right you see soybeans treated with 5 percent DDT dust. None of the pods show any damage by the corn earworm and the foliage is only slightly damaged.

NEW INSECTICIDES FOR THE CONTROL OF *Soybean Caterpillars*

By **WALTER M. KULASH**

Associate Research Professor
Dept. of Zoology and Entomology
North Carolina State College, Raleigh

Photos by Dr. C. F. Smith

SOYBEAN caterpillars have caused the complete failure of numerous soybean crops in eastern North Carolina for the past several years. This is especially true in Hyde County where the destruction wrought by various species of caterpillars reaches a peak about the first two weeks in September. Most of this damage can be prevented by one timely application of a suitable insecticide.

A series of tests was planned for the purpose of checking the effectiveness of different concentrations of benzene hexachloride, DDT, and *Ryanex* to control the various species of soybean caterpillars. Another test was planned to determine the effectiveness of an early application of 5 percent DDT dust as compared to a late application.

Insecticides Used

In the first test, two types of 5 percent DDT dust were used. One was a straight-grind dust and the other a micronized dust, reported to be of finer particle size than the straight-grind material. The benzene hexachloride dusts used were 1, 2, 5, and 10 percent concentrations of the gamma isomer. *Ryanex*, a plant product insecticide, was used at the 50 percent concentration.

Method of Application

Approximately 25 pounds per acre of the dusts were applied to the experimental plots.

These plots were 50 feet long and five rows wide in rows $3\frac{1}{2}$ feet apart. There was a buffer zone of two untreated rows between the plots. Including the check plots, there were eight treatments and each treatment was repeated four times. A single application of dust was made on all treated plots on September 12. Before the treatment was made, the area of the plots was examined and a count made of the soybean caterpillars. Additional caterpillar counts were made 4 hours after treatment and again at 5 days after treatment. A sample caterpillar count consisted of counting the number of larvae on six plants out of each plot. The plants were shaken over a plain piece of paper to dislodge the larvae and thus facilitate finding and counting them.

The insecticides used in the first test and the results of the sample caterpillar counts are listed in Table 1. The variety of soybean used in this test was the Arksoy.

In the second test, 5 percent DDT dust, straight-grind, was used on two different

days on two plots of beans consisting of 200 feet of row. One plot was dusted on September 9 and the second plot was dusted on September 12. Each of these plots received only one dust application at about 25 pounds per acre. The variety of bean used in this test was the Tokio.

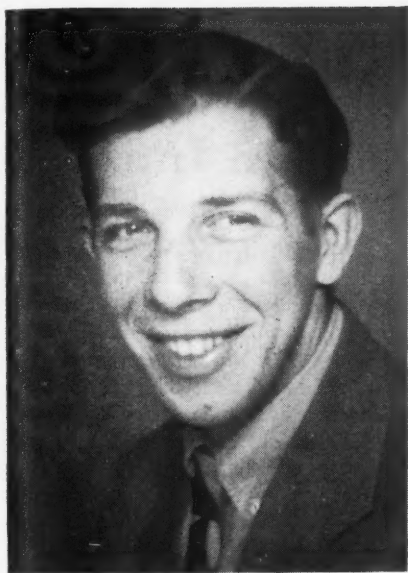
Results

The yield data listed in Table 1 show that all of the treated plots in the first test gave a much higher yield than did the untreated check plots. Upon statistical analysis, it was determined that there was a significant difference between the untreated plots and the treated plots. However, there was no significant difference between the various insecticidal treatments. The highest producing plots were those treated with 5 and 10 percent gamma benzene hexachloride. These same plots also had the lowest number of larvae in each of the two post-treatment counts. The greatest number of larvae recorded for the post-treatment examinations was that of the *Ryanex* plots, which also had

TABLE 1. Insecticides used, number of caterpillars found in two post-treatment examinations, and yields obtained in tests for the control of soybean caterpillars at Swan Quarter (Hyde County), North Carolina.

Treatment	Number of caterpillars*		Yield - bushels per acre
	4 hours after treatment	5 days after treatment	
5% DDT dust, straight-grind	13	2	11.9
5% DDT dust, micronized	28	4	12.6
Benzene hexachloride			
1% gamma dust	32	0	12.1
2% gamma dust	13	2	12.0
5% gamma dust	7	0	13.2
10% gamma dust	9	0	12.9
50% <i>Ryanex</i> dust	28	30	10.3
Untreated check	112	28	6.4

*Total for 24 plants, six in each of the four plots of each treatment. Pretreatment count in area of plots averaged 102 caterpillars on 24 plants.



WALTER M. KULASH

the lowest yield of any of the treated plots.

In the second test, the yield from the earlier treated plot of September 9 was 28.0 bushels per acre whereas the yield from the plot treated three days later on September 12 was 18.6 bushels per acre—a reduction in yield of nearly 34 percent. The increase in yield due to the timely application of DDT dust clearly shows the value of early dusting.

The principal insects observed attacking soybeans in eastern North Carolina during the fall of 1946 and 1947 were the velvetbean caterpillar (*Anticarsia gemmatilis* Hbn.) and the corn earworm (*Heliothis armigera* (Hbn.)). Other caterpillars commonly found in soybean fields at this time of the year are the yellow striped armyworm (*Prodenia ornithogalli* Guenee), the fall armyworm (*Laphygma frugiperda* S. and A.), and species of the *Autographa* group of caterpillars.

These pests damage soybeans chiefly by feeding on the foliage. The velvetbean caterpillar is a ravenous feeder, and the results of its feeding were evident in many fields in eastern North Carolina in the early part of last September. The corn earworm causes a characteristic type of injury by feeding on the seed pods of the beans (see illustration on opposite page). In periods of heavy infestation, the leaf feeding caterpillars will strip a plant of its foliage and the corn earworm will ruin the pods and the seed.

The velvetbean caterpillar is not a native of North Carolina. It spends the winter in the states south of North Carolina to which it migrates by mid-summer. The corn earworm probably overwinters in North Carolina. The earworm ordinarily feeds on corn but in the late summer, when corn begins to dry and get hard, the earworm migrates to soybeans. Frequently, both of these pests

attack a field of beans at the same time. When this happens, immediate control measures are needed if the crop is to be saved. The timely application of quick-acting insecticides can save a field and in most instances under North Carolina conditions only one application is necessary. Cryolite has given fair control of the leaf feeders and of the corn earworm. Five percent DDT dust has been reported as giving good or better control of the corn earworm and better control of the leaf feeders¹ (see photo). Growers prefer DDT dust because it is a quicker acting control of caterpillars than is cryolite.

A material of high residual quality such as DDT cannot be recommended for use on soybeans in cases where the dust is to be applied late in the season in fields where the foliage is to be used for feed. The tests described in this report were conducted on soybeans grown for seed and no attempt was made to check on the residue problem occasioned by the use of DDT. No attempt was made to determine if the use of benzene

¹As reported by Clyde F. Smith in *Research and Farming*, 4(3):7,9. 1946.

hexachloride flavored the taste of the soybeans or of oil produced from these beans.

Summary

The principal insects attacking soybeans in eastern North Carolina are the velvetbean caterpillar (*Anticarsia gemmatilis* Hbn.) and the corn earworm (*Heliothis armigera* (Hbn.)). The former feeds on soybean foliage and the latter attacks the pods. Other caterpillars commonly found attacking soybeans in this area are the yellow-striped armyworm (*Prodenia ornithogalli* Guenee), the fall armyworm (*Laphygma frugiperda* S. and A.), and species of the *Autographa* group.

Insecticidal dusts used in experimental plots to control these pests were: 5 percent DDT straight-grind, 5 percent DDT micronized, benzene hexachloride of 1, 2, 5, and 10 percent gamma isomer content, and 50 percent *Ryanex*. All plots received only one application of dust. All dust treated plots produced a significant increase in yield over the undusted check plots.

In two different plots of beans in the same field, beans treated with 5 percent DDT dust on September 9 yielded nearly 34 percent more than did beans treated three days later on September 12.



The Humko Co. trailer trucks.

HUMKO USES TRUCKS TO MOVE SOYBEAN OIL

The acute shortage of railroad tank cars has prompted the Humko Co., Memphis, Tenn., to purchase trailer-trucks for bringing oil for the oil mills to its plant, enabling it to keep up its production and give service to the mills. The first trip was made last November.

"The purchase of this equipment was strictly an emergency measure," S. L. Kopald, Jr., said, "We are still using the railroad tank cars and will continue to do so."

"It is not as economical to operate these trucks as it is to transport the oil in railroad cars," he said, "but we feel that the additional cost is justified in order to give our customers service and keep our plant up to its level of production."

The all-steel trucks represent an initial investment of \$20,000. They are of the conventional type used for transporting oil products, with a walkway on top and landing gear. They bring oil from the mills within a radius of 150 miles to Memphis, making the round trip in a day's time. The capacity of each unit is approximately 30,000 pounds or equivalent to a 60,000-pound oil tank car.

Humko Co. uses the oil in the manufacture of shortening and salad oils. They also prepare the oil to be used in margarine and salad dressings, which are shipped out in drums or tank cars to the manufacturers.

Humko is believed to be the only plant in the South to solve the transportation problem by the use of privately owned trailer-trucks.

SOYBEAN PRODUCTION STUDIES

In Indiana

By F. A. FRANK

Agricultural Experiment Station, Purdue University, Lafayette, Ind.

PROBABLY no other crop in the-U. S. has recently risen to prominence in such a short time as the soybean. However, this development created some new problems for the farmer in the Midwest where the largest acreage of soybeans is grown.

It was, therefore, a very appropriate move when the Agricultural Experiment Station of Purdue University initiated a special soybean research program in 1944. Aided by a grant from the Central Soya Co., Fort Wayne, Ind., this work deals mainly with problems of fertilization and the influence of soybeans on other crops in the rotation, especially legumes.

Under this setup we have just completed a 4-year study on the effect of fertility level and soil type on the growth, productivity and chemical composition of several soybean varieties. These tests were carried out on four different soil types at three locations in Indiana. On these plots, three levels of fertility (low-medium-high) had been established to study interactions of wheat varieties to fertility levels during the 6-year period 1937-43. Since taking over these plots for soybean work in 1944, the productivity levels were continued with no treatment for low level and applications of 400 and 800 lbs. of 0-12-12 fertilizer per acre respectively for medium and high level. The fertilizer was plowed down annually in the spring.

Nine varieties, including most of those recommended for Indiana, were used in the tests. Although from three different maturity groups, (early, midseason, and late) these varieties have shown little differential

response in any characteristic to the various fertility levels.

Over the 4-year period, soybean yields were increased on an average of 7-8 bu. per acre with the annual addition of 400 lbs. per acre of 0-12-12 in comparison to the unfertilized plots on Crosby Silt Loam at Lafayette and on Alford Silt Loam at Wheatland. The second 400 lbs. increment increased the yields by a further 2.5 bu. per acre at these locations. Yield increases amounted to about 2.5 bu. per acre for each 400 lbs. increment on Brookston Silt Loam at Lafayette but were practically negligible on Plainfield Fine Sand at Culver where yields have been very low, due in part to the lack of seasonable moisture.

In the fertilized plots, oil content increased rather consistently about $\frac{1}{2}$ percent on each of the four soils.

Direct Fertilization

Studies were also made on the effect of nitrogen applied by side dressing ammonium nitrate at flowering time to the Richland and Lincoln varieties on these same levels. This fertilization has given only small yield increases and slightly depressed the oil content.

While soybeans generally respond well

• *Direct fertilization of soybeans results in remarkably high yields under certain conditions. And soybeans do not harm the clover crop following, says Dr. F. A. Frank of the department of agronomy at Purdue University. From a talk before the Indiana-Illinois soybean processor meeting March 31.*

to high fertility levels, the direct fertilization to soybeans has resulted in *remarkable yield increases under certain conditions*. That is particularly true on soils deficient in potash as soybeans require a considerable amount of this plant food element. Our fertilizer work during the past years included comparisons of various amounts of high potash fertilizer plowed down on soils in potentially good but undeveloped soybean areas where yields are low at least partly due to the lack of nutrients, especially potash. In addition to lime, phosphate, and potash, increasing amounts of nitrogen were applied either by plowing down before planting or by side dressing at flowering time.

These treatments resulted in usually profitable yield increases on Clermont Silt Loam in southeastern Indiana locally known as slash-land. There, applications of a 10-10-20 fertilizer generally outyielded corresponding amounts of 0-10-20 fertilizer.

Results with the same kinds and amounts of fertilizer were not so satisfactory on the dark-colored very acid Newton fine sandy loam occurring in various sections of the Kankakee region in northern Indiana. However, a combination of lime, fertilizer, magnesium, and minor elements showed some promise last year.

On the other hand, crop yields are not only determined by the chemical and physical properties of the soil but also by the climate, with temperature, water supply and light being the three most important factors from the standpoint of plant response. This is quite evident from a test on the same Newton sandy loam where we tried to determine the influence of soil temperature on the yield of soybeans. Temperatures were measured at various depths in mulched and

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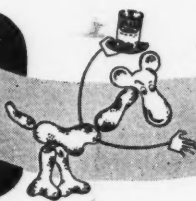
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unmulched soil from the middle of July to the end of September, 1947. At 1 inch below surface, the temperature on unmulched ground was from 15-20° F. on the average and in the hottest week in August nearly 40° F. higher than at the same depth on mulched ground. The yield of soybeans on mulched ground was 40 percent higher than on unmulched ground.

Phosphate Utilization

Due to the shortage of superphosphate during and after the war and because of the realization that liberal applications of phosphate are highly desirable, sales of rock phosphate in Indiana have soared during the last decade. While rock phosphate has its rightful place on certain soils and in certain rotations, we have not recommended it as a starter fertilizer. However, in tests in Illinois, the application of rock phosphate has increased the yield of beans and hay as well as their protein content.

It seemed, therefore, of general interest to compare the effect of the two main phosphate carriers, superphosphate and rock phosphate, on soybeans. For the last 3 years, we have tested these fertilizers for soybeans by plowing down amounts equivalent in value dollar for dollar on acid soils low in available phosphate. Although soil conditions obviously favored the use of rock phosphate, superphosphate, on the average of the results from these tests, outyielded rock phosphate by 2 bushels per acre with negligible differences in the chemical composition of the beans.

Crops Following

One other problem that has puzzled agronomists in the Midwest for some years is the alleged unfavorable effect of soybeans on subsequent legumes. With adequate fertilization of the rotation and proper tillage methods, soybeans have proved a valuable addition in the rotations on many Midwestern farms. However, as could be expected with near phenomenal rise of a new and comparatively unknown crop, there have also been complaints about the soil depleting influence of the soybeans, the increased losses through erosion and last but

not least, about clover failures on soybean ground as compared with corn ground.

Comparisons of crop rotations tested on the Purdue Agronomy farm for more than 30 years have shown equally steady yield increases of all crops including hay for the rotations with and without soybeans. Similar longtime rotation tests located on various soils in Indiana and other Midwestern states have given as good or better yields of legume hay after soybeans as after corn. In all these tests, good farming practices such as manuring, liming and fertilizing were followed.

Also, each year since 1944, a number of

tests were laid out to determine how applications of fertilizer and lime will affect yields of legume seedings in small grain following soybeans and corn.

A total of 10 tests was harvested in 1945 and 1946. Their results show that legumes after soybeans outyielded legumes after corn by an average of 170 lbs. of hay per acre regardless of companion crop and fertilization.

Considering all data from Purdue studies, it becomes evident that the claim of the adverse effect of soybeans on subsequent clover crops cannot be generalized.



East Chicago, Ind., plant of B. I. Weller Co.

WELLER EXPANDS INTO NEW PLANT

Above is the new, highly modernized plant of the B. I. Weller Co., at East Chicago, Ind., built to keep pace with the rapidly growing demand for "Calumet Super Capacity Elevator Cups".

Streamlined to greatly increase production facilities, this new plant of brick and steel, with high arched roof and spacious windows adjoins the "birthplace" of the Calumet Cup and provides ideal working conditions.

Welding booths of the most advanced type, take-away conveyors and overhead trolley have been installed to achieve a faster, smoother flow of materials and to

increase the efficiency of Calumet Cup fabrication.

The new structure provides approximately 100 percent more space.


Offices of the B. I. Weller Co. are at 327 S. LaSalle St., Chicago, Ill.

— s b d —

LIST OF PATENTS

The U. S. Office of Technical Services has established a list of government-owned patents which are available for foreign filing. Licenses awarded under such foreign patents, which are to be secured in the name of the government, will be given to United States nationals for non-exclusive use on a royalty-free basis, the office stated.

Persons interested in securing foreign patent rights should contact John C. Green, director, Office of Technical Services, Department of Commerce, it was announced.



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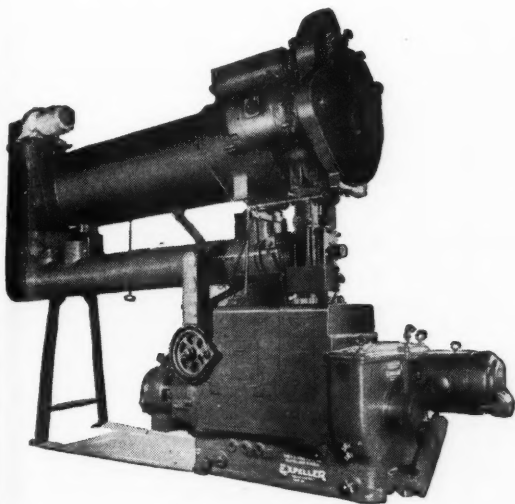
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SURVEY OF SOY FOODS

in East Asia

By DR. H. W. MILLER

International Nutrition Laboratory
Mt. Vernon, Ohio

International Nutrition Laboratory, Inc., has been more than a mere food-producing concern. It utilizes soybeans as the base of high-protein foods to build up dietaries where meat animal products are scarce and unobtainable, and in some instances too expensive.

The Laboratory has carried on research and processing experiments, and has developed a line of foods that has become more or less popular in this country. But the primary objective of this plant was to develop a milk built up to formula for babies, children and adults that could be utilized by Oriental populations where animal milk is not available, and which for economic reasons can never be a dependable source of food supplies for the masses.

Before the war the Laboratory had branches both in Manila, Philippine Islands, and Shanghai, China. The war saw the plant in Shanghai completely demolished and the equipment destroyed. In Manila the building was left, but all the equipment was removed. Therefore we have been busy since the end of hostilities in restoring these plants.

In 1946 and 1947 and during this last January and February the writer made trips and spent time in connection with these institutions.

I am glad to report that on my last visit to the Philippine Islands I was able to see the plant there start its operations. The machinery and equipment are practically all restored.

At the present time there are no soybeans under cultivation in the Philippine Islands. Before the war we had introduced several varieties into the Philippines and we were getting a start on their production. Certain parts of the Islands are very well adapted to the growth of the southern type of soybeans. Now we must obtain our supply of soybeans from the United States, and we have made several shipments out of Norfolk. Soybeans in Manila are selling on the market at 10 to 12 cents per pound.

In Manila

The Manila plant is interested in marketing bottled "Soyalac" (soy milk) both in the natural and chocolate flavors, and also in entering the production of soy ice cream—we are permitted to call it that in the Philippines.

From Manila I went over to Hongkong where 8 years ago a small company known as the Hongkong Milk Factory made a beginning in homogenizing a constituted soy milk. On this last trip to Hongkong K. S. Lo, the manager, took me through their plant. He informed me they are now

serving to each of the school children a half-pint bottle of the soy milk, both in the natural and the chocolate flavors, at their noon lunch.

The Hongkong Milk Factory is in reality a soybean dairy. As you view the equipment including the bottle filling machine and the refrigerating unit, you would not know you were not in an American dairy. Mr. Lo informed me that if they had refrigeration they could be putting this soy milk out in many of the other cities of China on a very large scale.

The firm obtains its beans from China, mostly from the province of Chang Tung, though some come from Manchuria. The beans are not of a very fine quality.

At Shanghai there were two soybean enterprises that particularly attracted my attention. The one for which we helped secure the machinery and equipment is being run under the name of the International Nutrition Products Co., Ltd. It is to be run very much like the Manila plant in the manufacture of liquid soy milk. The company will develop along with it a soy margarine and soy spread in the form of a mayonnaise dressing.

The other enterprise is being undertaken by the government. The Chinese Army Quartermaster Department has purchased a property where ice cream, dried eggs and butter, and also candy were made. This large property has a splendid group of buildings with refrigeration. It has been taken over by the Chinese Army for the purpose of running a soybean factory and a vegetable dehydration plant.

The Chinese Army has secured the help of my son, Harry Willis Miller, Jr. He is there at the present time erecting this plant. It is perhaps the largest soy protein processing plant we know of at present. The firm has bought equipment for large-

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scale production of a spray-dried soy milk powder.

This is to be included in other rations of a dehydrated character for use of the Chinese Army.

I gathered together a group of very fine beans—I could not give names to all of them—similar in size to the Mammoth Yellow grown in our Southern states, and other large varieties similar to the edible beans grown in the Central states. Beans at Shanghai were no cheaper than they were at Hongkong. They ran about 10 to 12 cents per pound.

My next place of interest was a short stay in Tokyo, Japan. During my stay there I was able to go quite extensively into the nutritional situation in that group of islands. The people are greatly undernourished, especially in regard to protein. Soybeans are scarcely to be had. Formerly soybean foods were found in great abundance. Large quantities were imported from Manchuria. Small amounts of soybeans were grown in the northern parts of Japan, particularly the island of Hokkaido. Now we found that there were practically no soybeans available. Bean curd plants are all closed down. There is everywhere a desire to obtain a supply of soybeans.

Soybeans in Japan

A shipment of soy flour was sent over to Japan. It was reported that this soy flour had poisoned the people. It was difficult for me to understand how soy flour could have any poisonous properties. But I found out the people were making a porridge of it. I knew, of course, that soybeans must be cooked at high temperatures to get rid of their gas forming and laxative effects. It was clear that the Japanese should not have soy flour sent to them but rather the whole bean. They know how to process the beans, hydrating them, making them into milk and cheese, and from those into a great variety of tasty foods. But the flour they were not processing sufficiently, so they were getting indigestion, vomiting and symptoms which they interpreted to be due to some poisonous properties in the flour.

I know of nothing that the Japanese nation needs worse than soybeans. I understand the American government is trying to obtain a million bushels to export to these islands. I found the Japanese people, even to the advisor to the Emperor, whom I met, pleading with us to establish a plant similar to that which we have in China and the Philippines. However, we have no financial interest in these plants. They are carried on wholly by local capital. Our part is simply the "know how" in setting them up and transmitting the processes to them.

BOOKS

CHEMICALS, HUMUS AND THE SOIL. By Donald P. Hopkins, B. Sc., F.R.I.C. 358 pages illustrated. \$8.50. Order through *Soybean Digest*, Hudson, Iowa.

This book written by an Englishman proves the necessity of chemical fertilizers for maintaining the fertility of the soil. It also includes concise information on which soil conditions and which chemical fertilizers are most suited for special crops and vegetables. Space is devoted to cereal crops; to roots and tubers; to vegetable crops such as beans, peas, lupins; to grasses and clovers.

It clarifies the relationship of manures, compost and chemicals as fertilizers and points out how chemicals should be used to obtain the best results in farming and gardening. It gives an excellent treatment of the relative merits of manures and chemical fertilizers. In addition, its philosophical soundness and logic should do much to avert the confusion of thought which was introduced by the advocates of the use of compost and manure as against the use of chemical fertilizers.

The book is written for farmers, gardeners, students of agriculture and, in general, for all those who are interested in the care of the soil and the raising of crops.



DONALD W. CHAMBERLAIN

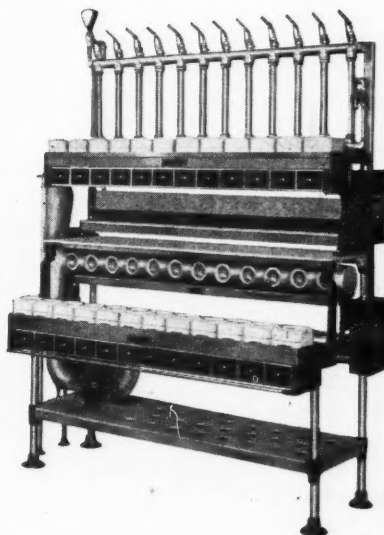
HEADS DISEASE WORK

Dr. W. B. Allington, pathologist and coordinator of soybean diseases for the Northern states with the U. S. Regional Soybean Laboratory, Urbana, Ill., resigned in January to accept a position as associate pathologist at the University of Nebraska.

Succeeding Dr. Allington in charge of soybean disease research work in Illinois for the Regional Laboratory is Dr. Donald W. Chamberlain. He has been with the Laboratory since January 1946.

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You can't manufacture or sell yellow margarine in Ohio, so Durkee Famous Foods made it in Chicago and gave it away for free in Cleveland — 1,500 lbs. of it. J. R. Manning, sales manager for Vermilion Foods, a Durkee distributor, is handing Durkee's yellow margarine to customers.

OHIOANS GIVEN TASTE OF YELLOW MARGARINE

Durkee Famous Foods, Cleveland, Ohio, have found a novel means of battling for the right to yellow margarine.

Durkee in one day gave away 1,500 pounds of factory-colored yellow margarine at Chagrin Falls . . . a trading area of 16,000 persons 20 miles east of Cleveland. Under Ohio law Durkee is forbidden to manufacture or sell yellow margarine in the state. These 1,500 pounds, therefore, were manufactured at one of Durkee's Chicago plants and shipped to Ohio to be given away.

The Durkee project was devised to give Ohioans a taste of the kind of product

which will be available to them when the Ohio law is changed, and to help create an even greater demand for removal of unfair margarine restrictions.

Coming as it did a few days before the scheduled vote on yellow margarine in the U. S. House of Representatives, the "give-away" was highly successful, both from a promotional and legislative point of view. The company planned a 2-day program but its supply of yellow margarine samples was exhausted before the first day ended.

Many of the housewives and farmers who were given the samples expressed their indignation at the archaic laws which prevent their buying yellow margarine all the time. Hundreds promised to write again to their senators and representatives and

demand the laws be changed.

The yellow, ready-to-serve Durkee's margarine was given away in quarter-pound prints, parchment wrapped. Durkee, of course, paid the 10-cents-per-pound federal tax on its samples.

— s b d —

GENERAL MILLS SHIFTS

Walter E. Flumerfelt, who has served as manager of Belmond operations for several years for the chemical division of General Mills, Inc., has been transferred to the division's executive offices at Minneapolis. In his new assignment, Mr. Flumerfelt, who is a division vice president, will handle the purchase of soybeans and the purchase and sale of soybean oil. This announcement is made by Sewall D. Andrews, Jr., division vice president and director of sales.

In addition, Mr. Andrews announced that Charles Greve will be in charge of sales of fatty acids and chemical derivatives and Fred Hafner will be in charge of sales of soybean oil meal and industrial protein.

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MOST 1948 SOYBEANS PLANTED

The best planting conditions in several years saw the great bulk of the soybean crop in the leading soybean-growing states in the ground June 1.

The ground worked well in most areas and favorable planting weather the last half of May made for a shorter-than-usual planting season for soybeans and other crops. Soybeans were mostly being planted at normal or earlier than normal dates.

Acreage is reported down generally in Ohio, Indiana, Iowa, Illinois and the cotton section of Arkansas. Most frequent estimate is a 10% decline in acreage. Some land is being shifted to corn and cotton due to favorable prices for those commodities. The grain shortage has induced some shift from soybeans to small grain. A trend is also noticeable away from row crops, all of which is cutting into soybean acreage.

A large increase is indicated for southwestern Ontario.

Weather was somewhat dry over much of the soybean belt June 1. A soaking general rain was needed.

Interest is marked in new adapted varieties with an increased acreage being planted to them. The Lincoln variety will be more predominant than ever in the belt adapted to that variety.

Reports of *Digest* crop correspondents follow, for May 28 unless otherwise noted.

ARKANSAS

L. M. Humphrey, Scott, for Little Rock area (May 27): Planting date about normal. 80% planted. Weather conditions very favorable. Moisture sufficient for good stands. Possible slight increase in acreage. Fewer yellow beans. Increase in Ogdens and Dortchsoys.

Jake Hartz, Jr., Jacob Hartz Seed Co., Stuttgart, for south-southeast (May 26): Planting date normal. 40% planted. Cool rainy weather past 10 days. No decrease in soybean acreage in rice section. 50% less soybean acreage in cotton section. Change to Ogden, Volstate and Roanoke varieties. Less Ral soy and hay varieties.

Wheeler R. Perkins, extension agronomist, Little Rock (June 1): Planting date normal. Weather conditions good. Estimated 25% decrease in acreage in Arkansas, due to marked increase in cotton acreage in Arkansas delta and low 1947 soybean yields. Some increase in variety S-100.

ILLINOIS

Gilbert F. Smith, Mahomet, for east central (May 27): Planting date normal. 80% planted. Weather dry. Could use a good rain. Acreage 10% less than 1947. Factors affecting acreage change are oat price and machinery supply.

Russell S. Davis, Clayton, for west

central: Planting date earlier than usual. Practically all planted by May 25. Except for being a bit too cool at night, weather has been ideal. Once the planting started were no stops until completed. I can't recall when planting season so short for corn and beans. Ground all plowed and dragged down weeks before time to plant. Ground worked the best in years. Only one disking and harrowing was needed to

make good, uniform seedbed. Very few wet or cloddy places. Subsoil moisture adequate. A shower soon, to give uniform germination, should give the crop best start for several years. I think soybean acreage lower than 1947, but can't tell just how much. Oats acreage is higher and quite a number have increased corn acreage because they were short of feed grains. Perhaps a few more growers will switch to Lincoln.

Walter W. McLaughlin, McLaughlin Agricultural Service, Inc., Decatur (June 2): Soybean planting 80% completed. Needing



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rain badly. Some planting stopped waiting for rain as soil too dry to sprout beans.

H. I. Cohn, Valley Farms, Wright, for west central (May 31): Planting date earlier than normal. One-half planted May 25. Should all be planted by June 10. Weather conditions excellent. Acreage about 10% less than 1947 although Valley Farms is planting 30% more. Almost 1,000 acres are Rickard Koreans, named in memory of E. T. Rickard who brought this remarkable soybean to Illinois from Ontario, where it had been sent from Korea. Also growing 1,500 acres Lincolns, 30 acres Hawkeye.

J. E. Johnson, Champaign, for Champaign and adjoining counties (May 31): Planting date earlier than past 3 years. 80% planted. Weather too dry and cool for good seeding. Many farmers stopped seeding due to dry conditions. Others haven't started, waiting for rain. At least 95% of seeding would have been done had there been sufficient moisture in soil. Nothing will be done now until it rains. Acreage slightly lower than 1947. Will not be the emergency seeded acreage like 1947. More wheat seeded in fall of 1947. Oats seeding increased to obtain clover growth.

INDIANA

Peter J. Lux, acting chairman Indiana PMA state committee: Planting date well ahead of last few years. At least 90% planted. Weather very favorable for working ground and planting during last 10 days. Early reports indicate acreage down at least 10%. Step up in corn acreage due to small carryover of feed grains has to a certain extent been at expense of soybeans. Wheat farmers are much interested in the new Hawkeye variety and hope it will fit into their crop rotations.

J. B. Edmondson, Danville, for south central: (May 26): Planting date normal, 3 weeks ahead of 1947. 85% planted. Generally bean acreage is left until all corn is planted. Two weeks of dry cool weather will see practically all planting done by June 1. Ground left for late breaking may have to wait for a rain. Ground hard and dry. Acreage about same as last year. More and more farmers falling into regular 4-

year rotation plan. No disturbing factor seems to have upset acreage balance. Practically all Lincolns except few available Hawkeyes.

K. E. Beeson, Indiana Corn Growers Association, West Lafayette: Planting date normal. If present weather continues until June 1, bulk of corn and soybeans will be planted by that time. Conditions for working ground in much of central Indiana have been excellent since May 16. Crop statisticians show a reduction in Indiana acreage. Reduction in wartime demand for soys has modified the acreage to some extent along with desire to include a higher proportion of sod crops in the rotation. Lincoln variety will, predominate again. When the Hawkeye has been multiplied, it will reduce the acreage in Lincoln and largely eliminate Richland.

IOWA

Howard L. Roach, Plainfield, for northeast: Planting date normal. 100% planted. Weather good. Acreage same as 1947. No change in varieties.

Leslie M. Carl, U. S. Department of Agriculture, Des Moines (May 25): About 75-80% should be planted by June 1. Getting too dry in many parts of state. March 1 reported intentions for acreage was 1,551,000 acres or 16% less than 1947. Planting conditions have been favorable and it appears that this early acreage may be exceeded.

O. N. La Follette, State Department of Agriculture, Des Moines (May 25): Planting date 10 days earlier than normal. 65% or more planted June 1. Most of state should have showers but not seriously in need. Acreage down 10%. Loss of clover seeding increasing soybean acreage, particularly in south Iowa. Definite swing to new varieties.

Fred Hawthorn, Castana, for western: Planting date normal. 98% planted. Weather very dry. Lots of beans planted are in dry ground with germination very uneven. Acreage 75% of 1947. Prices low relative to corn. Poor bean crop last year. Mostly all Lincoln variety here.

KANSAS

E. A. Cleavinger, extension division, Kansas State College for eastern: Planting proceeding on time. Weather conditions grand. However, subsoil moisture is not good, and a shortage of seasonal rain will cut yields. Acreage will be about as reported last month (207,000 acres as compared with 244,246 acres in 1947). 120 bu. of S-100 have been released.

MINNESOTA

R. E. Hodgson, Waseca, for southeastern: Planting date normal. 85% planted. Weather excellent. It is getting a bit dry and sandy land needs moisture badly. I can't see much change in acreage. Some late varieties have been tried but in general adapted varieties are used. Habaro, Ottawa Mandarin and selections of Manchou predominate.

MISSOURI

Harry A. Plattner, Malta Bend (May 26): Planting date normal. 75-80% planted. Some will be seeded after wheat is combined. Normal beans planted after May 20 should come up to a good stand if no heavy rain before germination. Acreage same if prices hold up to last year. Beans must be twice the price of corn if we expect an increase in acreage. Missouri, especially north and central, is planting Lincoln.

E. M. Poirot, Golden City, for northwest (May 30): Planting date normal. Half of crop planted. Weather dry but enough moisture to sprout beans. Acreage for 1948 not yet determined. More land to corn due to high corn prices.

J. Ross Fleetwood, extension specialist Field Crops, University of Missouri, Columbia: Planting date 10 days early. 80% planted. Weather ideal but a general rain would be fine. Acreage 10% less than 1947 due to greater oats, corn and cotton acreages.

NEBRASKA

Harry E. Wiysel, Fremont Cane & Meal Co., Fremont, for east central (May 26): Planting date normal. Crop should all be planted by June 1. Weather excellent. Many farmers report beans are coming up nicely. Acreage about 10% under 1947.

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This should be offset by the favorable planting conditions of this year. Corn planting conditions have been ideal.

NEW YORK

R. L. Gillett, *Agricultural Statistician, Albany* (May 26): Planting date about normal, if normal weather. Practically none planted. Continuous wet period until May 24 in western and central New York slowed up all field work during preceding 2 weeks. This is a "high risk" crop and still pretty generally experimental. Growing seasons often too short and cool for adequate growth and ripening of seed, even with varieties bred for short season growth.

NORTH CAROLINA

Frank Parker, *agricultural statistician, Raleigh*: Planting date normal or earlier. 50% planted. Acreage about same as 1947. Tobacco reduction and good weather favorable to soybean acreage. Planting conditions and economic situation favorable for increase but no definite information.

OHIO

D. G. Wing, *Mechanicsburg, for west central* (May 26): Planting date average to early. If weather continues most of beans in this section will be planted June 1. Wet in April and early May, but it has cleared up and soil is working fine. Early corn and some beans are up. One large farm has had beans up for 10 days. More corn has been planted because of good weather so that acreage of beans will only be 85-90% of 1947. Some have gone back to early varieties, remembering last year's Sept. 25 frost. Weeds are working down fine and our beans (270 acres) should be clean if weather advantageous.

G. G. McIlroy, *Irwin, for central* (May 26): Planting slightly later than normal. 60% planted. Very wet here until May 19. Lots of work being accomplished week of 19th to 26th. Acreage 10-15% less than 1947. High price of corn and more favorable planting season affects bean acreage. Appears that all planting will be much earlier than in 1947. No change in varieties except a larger planting of Hawkeyes due to increased availability of seed. More fertilizer being used on soybeans than ever before.

Ersel Walley, *Walley Agricultural Service, Fort Wayne, for northeast Indiana and northwest Ohio* (May 26): Planting date normal, earlier than for 2 or 3 years. 95% planted. Weather ideal except too cool. Crop conditions best in several years. Acreage 90-95% of 1947. More clover left. More oats as cover crop. Varieties practically all Lincolns and Earlyanas.

D. F. Beard, *extension agronomist, Ohio State University, Columbus* (June 2): Planting date 3 weeks to month ahead of 1947. 90% planted. Ideal for planting last week of May. Need rain now.

PENNSYLVANIA

E. L. Gasteiger, *agricultural statistician,*

for eastern (May 26): Planting date normal. Just starting to plant. Weather cool and wet. Less acreage than 1947. No local market. Most plantings for hay or own use.

SOUTH DAKOTA

H. G. Miller & Son, *Garden City, for Clark County*: Planting date normal. 10% planted. No rain for May as yet. Moisture needed to germinate seed. Acreage reduced 50% compared to 1947. Most growers are planting flax to replace soybeans due to price support of \$6 a bu. on flax. Several growers were caught last fall with an early snow did not get them harvested at all. All small grain is looking good but rain needed soon.

VIRGINIA

John M. Taylor, *Department of Agriculture, Richmond*: Planting date normal. 50%

planted. Weather too cool and wet.

CANADA

R. H. Peck, *River Canard, for southwest-ern Ontario* (May 26): Planting date about normal. About 50% planted. Almost continuous rain May 7-14 held up land preparation and left some land water-logged for some time which held up early planting. Good drying weather May 20-26th enabled many beans to be planted to date. Likely at least 50% increase in acreage with a possibility of even more due to water damage to some of the oat and sugar beet crop and wet soil delaying corn planting. Some of the corn acreage may be planted to soybeans. Many farmers are growing soybeans for first time this year after seeing how they came through last year's adverse weather conditions.

An Open Letter to the Nation's Farmers

Subject: RAILROAD RATES

Rates and fares are the prices at which railroads sell their services. These prices are higher now, in dollars and cents, than they were before the war but as compared with most other prices, they are distinctly lower.

The increase since 1939 in the prices at which railroads sell their freight services has been only about half as much as the percentage by which railroad wage rates and the prices of railroad materials, supplies and fuel have gone up. In passenger service, the increase in selling prices has been only one-fourth as much as the average increase in the prices and wages which railroads must pay.

Increases in railroad rates are effects, not causes. Rail rates were no higher at the end of the war, and in many instances were lower, than when war began. Subsequent increases came after and not before the increases in the prices of other things. Indeed, there are few commodities or services for which the increase in price since 1939 has been so little, or so late.

Experience has shown that poor and inadequate transportation is costly, no matter how low the rate might be, while good and adequate transportation is worth what it costs. The foundation of good transportation is good plant and equipment. That requires investment, and investment depends upon earnings or the prospect of earnings.

The best way, and indeed the only sure-way, to have better transportation in the future is to give railroads a chance now to make earnings in line with today's costs -- such earnings as will justify and encourage continued investment in the better railroad plant and facilities which are the one sound foundation of better service at the most economical cost.

Sincerely,

William T. Faricy
President

Association of American Railroads

WASHINGTON 6, D. C.

DELTA CO. BUILDS MARGARINE PLANT

The Delta Products Co. of Wilson, Ark., has started construction on its \$1,525,000 margarine and shortening plant, J. H. Crain, company president, announces. Foundation concrete and steel has been set and workers recently were beginning the fabrication of the building.

The single-story building of concrete and steel will provide 25,200 square feet of floor space. The most modern machinery for production of vegetable oil products will be installed. Operation of the plant is expected to begin within 10 or 12 months.

The Delta Products Co. also announces start of construction on expansion of its vegetable oil refinery at Wilson. Several thousand square feet of floor space are being added and processing capacity is being stepped up to 125,000 pounds of soybean and cotton crude oil per day.

With completion of the new additions, Delta's integrated enterprises—"from cotton and bean fields to margarine and shortening"—will employ 75 people on each of the three shifts. The solvent process cotton oil mill will handle 60,000 tons of cotton seeds during the year beginning Sept. 1. Its new sister plant will manufacture margarine at the rate of 4,500 pounds per hour and shortening at the rate of 10,000 pounds per hour.

Management of the various divisions of the Delta Products Co. operation will be under the direction of C. W. Hoover.

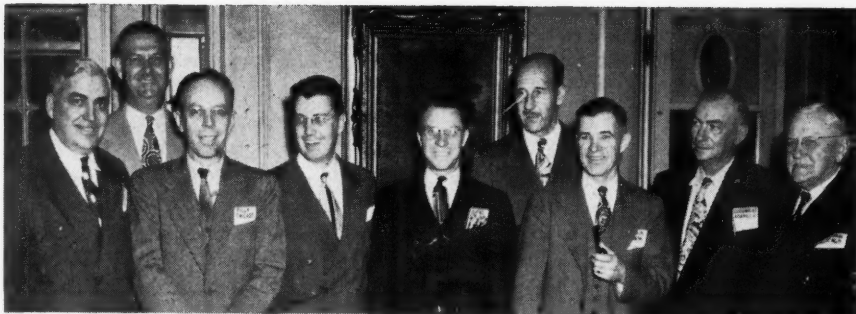
A principal source of the soybean oil to be used in the new plant will be the Lee Wilson & Company soybean mill at Wilson. Storage capacity of the mill, which employs the solvent process, is being doubled and when completed will give the plant a capacity of 35,000 tons of soybeans per year.

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KILLED IN ACCIDENT

Stanley Bith recently was killed when he fell into a tank of boiling caustic cleaning solution while at work at Spencer Kellogg & Sons, Inc., Chicago.

Bith and three other men were attempting to clean an expeller leg by lowering it into the tank when the accident occurred.



Chief grain inspectors and USDA representatives were guests of Seedburo Equipment Co. at a reception given during their recent joint conference in Chicago. From left to right: L. W. Faulkner, Steinlite sales director, Seedburo Equipment Co., Chicago; H. N. Holmes, USDA, Fort Worth, Tex.; J. O. Tilly, USDA, Chicago; R. D. Harfst, Seedburo vice president; Jos. L. Levens, Superior, Wis.; F. W. Hoffman, Sacramento, Calif.; R. H. Black, USDA, Washington, D. C.; C. M. Goodnight, Amarillo, Tex.; and Axel Ahlman, Chicago, Ill.

GRAIN INSPECTORS MEET IN CHICAGO

A record 2-day joint conference sponsored by the Chief Grain Inspectors National Association in cooperation with the staff of Federal Grain Supervision, was held in the Hotel Atlantic, May 6-7.

More than 120 persons from every section of the country registered, with an exceptional attendance reported at each of the four sessions.

John H. Frazier of Philadelphia presided as general chairman.

Edward J. Murphy, assistant director of the grain branch of Production and Marketing Administration, headed the federal delegation to the meeting, and was one of the speakers.

Murphy reminded the assemblage that during the past 2 years the controlled economy with its tight supplies and price regulation made dealers not too critical of the grades of their grain. He said quality became secondary. Much of the business was done through a single channel, the government procurement program.

"The day will return," Murphy said, "and I hope shortly, when competitive conditions will bring correct and uniform grain grading back into the picture in an important way. Both groups must recognize this and be prepared to render the

full measure of service which the task deserves."

George D. Bradley, regional director, Commodity Credit Corporation, Chicago, spoke on some of the CCC experiences with inspection in handling record quantities of grain and soybeans.

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REDUCE MARGINS

The board of directors of the Chicago Board of Trade voted May 25 to reduce the minimum initial margin requirements on grain futures transactions, other than hedging and spreading transactions, to 55c a bushel on wheat, 50c a bushel on corn, 18c a bushel on oats and 80c a bushel on soybeans, these reductions to become effective at the opening of trading May 27 according to announcement by Richard F. Uhlmann, president.

The margin reductions announced leave minimum margin requirements still higher than those prevailing on October 6, 1947 when margins last were increased.

This action was taken Mr. Uhlmann said, because of changed market conditions, because of demands made for lower margins by various segments of the grain trades so as to restore liquidity to the market and to better help the farmer market his new crops that are now approaching the harvest.

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NITRAGIN CO. CELEBRATES 50TH ANNIVERSARY

A half-century of service to the American farmer is the record of the Nitragin Co. of Milwaukee, Wis., now celebrating its 50th anniversary. The Nitragin laboratories each year produce legume inoculants sufficient for millions of acres.

The story of Nitragin parallels the development of the legume crops as an important factor in U. S. agriculture.

Franklin J. Matchette, founder and first president of the Nitragin Co., developed and patented an improved process for production of laboratory cultures. "Nitragin" was first distributed to farmers in bottles containing enough inoculation for 1 acre. The bacteria were grown on the surface of a jelly-like medium and when ready for use by the farmer were washed off and mixed with the seeds.

As the demand for "Nitragin" grew, Matchette concerned himself with improving the product and looking for a way to make it available to the farmer in a form more easily applied to legume seeds. He hit on the idea of growing legume bacteria in a liquid medium under aeration. He patented the process and also the special aerated incubators which he designed.

During the 50 years of its existence, the Nitragin Co. has established an impressive record—first, as a pioneer in the production of legume bacteria by the laboratory method; and second, as a leader in research and scientific selection of legume bacteria.

Over the years, Nitragin Co. soil bacteriologists have devised more efficient mass production methods, more suitable

culture media, better packaging and handling facilities for legume cultures.

"Nitragin" inoculants have been advertised nationally and consistently for many years. The familiar "yellow can" on seed counters throughout the country has come to be recognized by farmers as a symbol of good soil management and better legume yields.

L. D. Matchette, present head of Nitragin and brother of the founder, has been at the helm of the business since 1922. His sons, Jack, Dick and Jim, through their active participation in the business, are also earnestly promoting the growth of better legumes on the farms of America.

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Lifts in 41 seconds—lowers in 20 seconds. Maximum safety because of "oil locked" hydraulic control and cushioned lowering—no danger of accidents.

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KEWANEE MACHINERY & CONVEYOR CO., Kewanee, Illinois



Publications

Nitrogen Fertilization

GREENHOUSE STUDIES OF NITROGEN FERTILIZATION OF SOYBEANS AND LESPEDEZA USING ISOTOPIC NITROGEN. By Geo. D. Thornton, research fellow, Iowa State College, Ames, in *Soil Science, Society of America Proceedings*.

Previous workers have shown that nitrogen compounds added to the soil interfere with the fixation of free nitrogen by inoculated legumes. It is also known that uninoculated legumes act about like non-legumes in nitrogen uptake.

But recently Norman and Krampitz have shown that the nitrogen needs of well nodulated plants are not as satisfactorily supplied by nitrogen fixed through the nodule mechanism as when a portion of the nitrogen is supplied in the combined form in the soil. Under field conditions the soybean can apparently effectively use more nitrogen than is provided by fixation.

There is no reliable information regarding the time when the greatest need for supplementary nitrogen occurs in the development of inoculated legumes. It has been suggested that in the case of small-seeded crops, such as alfalfa and clover, this may occur in the early stages of growth. But with the larger-seeded plants, such as soybeans, it may occur at the time of most rapid growth.

It is not known whether the nitrogen-fixation system of the plant is completely inhibited by a supply of combined nitrogen sufficient to meet the plant's needs.

The work was undertaken to try to find the answer to some of these questions.

Calcium nitrate containing an enrichment of the nitrogen isotope of mass 15 was added at two levels to soybeans at the time of planting and at midseason. One-half of the replicates receiving nitrogen early were harvested 5 weeks after emergence. The remaining half and those receiving nitrogen at midseason were harvested 11 weeks after emergence.

Nodule counts were made at the early harvest, and yield, nitrogen content and N^{15} enrichment were determined for both harvests.

Some of the results:

Combined nitrogen added at the time of planting reduced significantly the number of nodules per plant of soybeans and lespedeza.

Soybean yields were increased significantly by additions of combined nitrogen to well-nodulated plants.

The amount of fixation by inoculated soybeans receiving added combined nitrogen was inversely proportional to the amount of nitrogen added.

There is good evidence that some symbiotic fixation of nitrogen occurs even though an adequate supply of combined nitrogen is available for the host plant.

Feeding

THE ESSENTIAL AMINO ACID CONTENT OF COTTONSEED, PEANUT AND SOYBEAN PRODUCTS. By Carl M. Lyman, Kenneth Kuiken and Fred Hale.

Bulletin No. 692. Texas Agricultural Experiment Station, College Station, Tex.

The need of animals for protein is really a requirement for certain amino acids present in the protein. Complete information on the amino acid content of feeds is needed as a guide in compounding rations for farm animals, if amino acid deficiencies are to be avoided.

In the investigation described by this bulletin microbiological procedures were applied to the study of various products made from cottonseed, peanuts and soybeans.

The content of the 10 amino acids generally thought of as essential in 19 samples of cottonseed, peanut and soybean products is given in this report. The products include cottonseed flour, both hydraulic and solvent extracted cottonseed meals, peanut flour, peanut meal, both hydraulic and extracted soybean oil meals, soy protein and soy feed.

In the three amino acids of particular significance in nutrition—lysine, methionine and tryptophane—the proteins of cottonseed and soybean oil meals were found to be definitely superior to the protein of peanut meal.

Except for soy protein and soybean feed, the type of commercial processing appeared to have little or no effect on the amino acid composition of the products.

(The meaning of soybean feed is not explained in this work.)

SOYBEAN OIL MEAL IN COMBINATION WITH DISTILLERS SOLUBLES IN SWINE RATIONS. L. E. Hanson, University of Nebraska, Lincoln, before the third Conference on Feeds of the Beverage Distilleries, Cincinnati, Ohio.

Professor Hanson described research investigations on the value of distillers solubles in swine rations.

In the Nebraska tests, a protein supplement consisting of tankage, soybean oil meal and alfalfa was used as a control ration. In three different groups, distillers solubles was substituted for the tankage, soybean oil meal and alfalfa respectively.

The group of hogs fed the ration consisting of soybean oil meal, alfalfa and distillers solubles had the lowest feed requirement and required the least protein per pound of gain.

The cooperative nature of distillers solubles was also demonstrated by the fact that a group of pigs fed a mixture of equal parts by weight of distillers solubles, tankage, soybean oil meal and alfalfa made the most rapid gains of all the groups in the trial.

Economics

ECONOMIC FACTORS IN THE GROWTH OF THE OILSEED INDUSTRY IN THE UNITED STATES. By Allen B. Paul. Abstract of doctor's thesis at the



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University of Illinois in *Journal of Farm Economics*.

Cottonseed, corn germ, soybean and flaxseed and other oilseed industries are covered in this thesis.

Paul finds that cottonseed, flaxseed and corn germ industries are now mature. Soybeans are still undergoing vigorous growth.

The author believes the drouth of the 30's and government production adjustment programs before the war were big factors in the growth of soybeans, though probably the acreage would have expanded without them.

He predicts production may increase in the flat clay-pan areas of Illinois, Indiana and Missouri if soil improvement practices are followed. But higher corn yields in the commercial cash corn area may reduce the soybean acreage there.

The author discusses the vegetable oil and oil meal fields. He notes soybeans have been gradually getting into a much stronger competitive position in both fields as compared with other oilseeds.

He goes into the organization of the processing industry and finds a certain degree of monopolistic concentration here in common with most other manufacturing industries in the U. S. However, the degree to which monopolistic control can be exercised varies among the different oilseed industries. He believes that competitive elements in the oilseed industry are more important by and large than monopolistic elements.

FUTURE OF SOYBEANS IN THE U. S. By Don Paarlberg, agricultural economics, Purdue University. *Economic and Marketing Information*, March 18.

The author points out that the U. S. is a deficit nation for fats even with the present level of soybean production. He also thinks there is no indication that the supply of high-protein feeds will become burdensome.

He says soybeans are in a fairly profitable position in relation to other crops. Though there may be a modest decline in soybean acreage, he does not believe it will be as great as many people expect.

Breeding

A STUDY OF HYBRID VIGOR OF SOYBEANS. By S. Wang and C. I. Shin, in *Journal of the Agricultural Association of China*.

Twenty-five crosses between distinct varieties of soybeans were made in the summer of 1942. In the next summer the first generation of hybrids were planted beside their parents in the nursery and comparisons made. There were 680 plants, of which 187 were male parents, 185 female parents, and 308 were progenies.

Hybrids grew much more vigorously than did their parents. Hybrids greatly excelled both parent stocks in height of plants, branching, weight of pods per plant,

number of seeds in pods, number of seeds per plant, weight of seeds per plant, and weight of 100 seeds.

But there were also more empty pods on the hybrid plants.

Inheritance in color of seedcoat is to be reported in another paper.

Drying Oils

A STUDY OF SOYA-TUNG OIL COMBINATIONS. Pittsburgh Paint and Varnish Production Club. *Paint, Oil and Chemical Review*, Nov. 13, 1947.

Mixtures of soya and tung oils can be bodied to produce drying properties equivalent to bodied linseed oil. Combinations of 60 percent soya with tung produced equal or better drying properties than bodied linseed oil.

SOYBEAN OUTLOOK

Oilseed producers probably will not need to cut their acreage much for some time yet, in the estimate of the Bureau of Agricultural Economics in the *Agricultural Situation*.

Demand for oilseeds will stay fairly good for the next 4 or 5 years, in the estimate of the Bureau. Prices will probably go off some. However, they will stay well above prewar for several years. Total oil exports from this country and other parts of the world are still below prewar.

Over the longer period, fats and oils and protein meals will run into sharp competition from tropical oil crops.

But soybeans promise to be in stronger position than prewar as a claimant for cropland.

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Not the garden variety, of course. That just takes a smattering of "know-how" and some sharp scissors.

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GRITS and FLAKES...

FROM THE WORLD OF SOY

W. J. Morse, principal agronomist of the USDA Bureau of Plant Industry at Beltsville, Md., was recognized for 40 years of service with the Department at the second annual presentation of USDA honor awards in May.

* * * *

Soybean production maps for 1947 for Indiana, Illinois, and Ohio have been issued by the Nickel Plate Road. Acres planted and harvested and total bushels for each county are shown. Location of each processing plant is starred.

* * * *

A large advertisement urging farmers in the territory to plant more soybeans was carried recently by the Big 4 Co-op Processing Association in the *Sheldon (Iowa) Mail*. "Soybeans are your surest crop in northwest Iowa and one of your best cash crops," stated the ad.

* * * *

"A Review of the Technical Applications of Soybean Lecithin," by W. K. Hilty of Ross & Rowe, Inc., New York City, was an article in the May issue of *Journal of the American Oil Chemists' Society*.

* * * *

W. G. (Bill) Skelly, founder and still active head of Skelly Oil Co., celebrated his 70th birthday at Tulsa, Okla., June 10.

* * * *

"Margarine—Here to Stay," by Siert Riepma, assistant to the president of the National Association of Margarine Manufacturers, was an article in April issue of *National Food Distributors' Journal*. The article tells the story of soybean oil in margarine and urges repeal of anti-margarine laws.

* * * *

A. G. Hovey of the technical service staff of General Mills, Inc., was a recent speaker at the Golden Gate Paint and Varnish Production Club, San Francisco. His subject, "Soybean Oil in Coating Composition."

* * * *

"Soybeans Yesterday and Today," was the lead article by W. J. Morse, principal agronomist of the Bureau of Plant Industry, in the May *Foreign Agriculture*. The article presented a world review of soybeans.

* * * *

Clyde H. Hendrix, Pillsbury Mills, Inc., Clinton, Iowa; and R. H. Fletcher, McMillen Feed Mills, Inc., Fort Wayne, Ind., have been elected to the board of directors of the American Feed Manufacturers Association.

* * * *

"The Farmer's Stake in Industrial Research," was an article by Ralph H. Manley, director of research, General Mills, Inc., in May *Chemurgic Digest*. Attention is given to research in soybean oil.

* * * *

C. W. Akin, until recently sales manager of the Bemis Paper Bag Co. plant at St. Helens, Ore., has been transferred to the St. Louis general sales office of Bemis Bros. Bag Co. He will coordinate multiwall paper bag sales throughout the company.

* * * *

Dr. Harold Vagthorg, president and director of Midwest Research Institute, Kansas City, Mo., has resigned to become president and director of Southwest Research Institute, Houston, Tex.

* * * *

Dr. C. J. Willard, agronomist for the Ohio Agricultural Experiment Station, is on 3-month leave of absence to serve as scientific attache to the American Embassy in London. He is agronomist in the field of farm crops on a team of agricultural scientists chosen to give technical advice to British agriculture.

* * * *

Walter Geist was elected to his seventh term as president of Allis-Chalmers Mfg. Co. May 7. All directors and officers were reelected at the annual meeting of the firm's stockholders and board of directors.

* * * *

Bemis Bro. Bag Co. has begun a series of advertisements—cartoon-style and 4 colors—in *Time Magazine*. "A new departure in bag advertising," claims Garth D. Salisbury, of the Bemis firm.

* * * *

Philip W. Pillsbury, president of Pillsbury Mills, Inc., was reelected a director of the Milwaukee railroad at a recent stockholders' meeting.



DR. JOHN C. COWAN

RECOGNIZED BY USDA

A U. S. Department of Agriculture superior service award for "outstanding efficient and constructive public service" has gone to Dr. John C. Cowan of the Northern Regional Research Laboratory, Peoria, Ill.

Dr. Cowan's award was based on his "research on the fundamental chemistry and the utilization of vegetable oils for the production of rubber substitutes and thermoplastics which led to the commercial utilization of soybean oil products for certain rubber goods, especially those used for heat-sealing and protective coverings."

Dr. Cowan is head of the oil and protein division of the laboratory. He was in charge of the development of Norepol, a rubber substitute made from vegetable oils, and Norelac, a resin derived from soybean oil.

The second annual presentation of USDA honor awards was made in Washington May 17.

— s b d —

FATTY ACIDS PLANT

Chemical plants division of Blaw-Knox Co., Pittsburgh, Pa., has been awarded a contract by Lever Brothers Co. to design and erect at Hammond, Ind., a complete fatty acids production plant.

The process will start with fats or oils and hydrolyze them in a continuous high pressure tower to glycerine and fatty acids. The glycerine after refining is used in explosives, resins and cosmetics. The fatty acids will be refined by distillation and utilized by Lever Brothers in the production of their products.

The plant will employ the most modern

production methods and will be automatic in operation. It will be constructed of stainless steel and aluminum. Construction is to begin immediately and the unit is scheduled to go into production in the near future.

Chemical plants division of Blaw-Knox Co., Pittsburgh, Pa., has received a contract from Soy-Rich Products, Inc., for the construction of a 75-ton per day soybean solvent extraction plant at Wichita, Kans.

The award to Blaw-Knox represents a "turnkey" project, including engineering, procurement and erection of the building and all equipment. The facilities will include a new type of solvent extractor recently developed by the contractor, as well as the Lewis flaking mill and the Blaw-Knox vapor desolventizer.

—s b d—

PRATER APPOINTMENTS



R. L. LINGARD



D. W. LINGARD

R. L. (Russ) Lingard has been appointed sales manager of Prater Pulverizer Co., Chicago. He has been with the company in sales and executive capacities for one year and was formerly president of L. & S. Engineering Co., Chicago.

In previous connections, Lingard was division engineer, Carnegie Illinois Steel Co., general manager, Friedman Manufacturing Co., Chicago; president, Fountaine Corp., Chicago; general manager, Pfanstiehl Chemical & Metallurgical Co., Waukegan, Ill.; vice president and general manager, Pony Tractor Co., Peru, Ill., and secretary to the mayor and member of the Board of Safety, Gary, Ind.

Lingard is credited with several inventions and is a graduate of mechanical engineering, commercial and business law, business management and sales engineering, and higher accounting.

Prater Pulverizer Co. also recently announced the appointment of D. W. (Dave) Lingard as Indiana representative. He will make his headquarters at LaPorte, Ind.

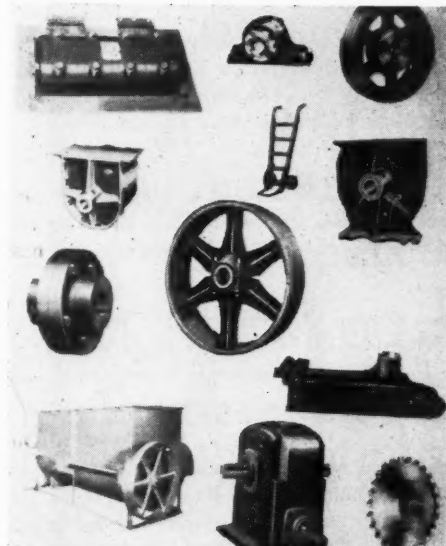
Prior to joining the Prater organization he had been district representative of Prudential Life Insurance Co. for 15 years.

Lingard attended the University of Wisconsin and was a second lieutenant of artillery in World War I.

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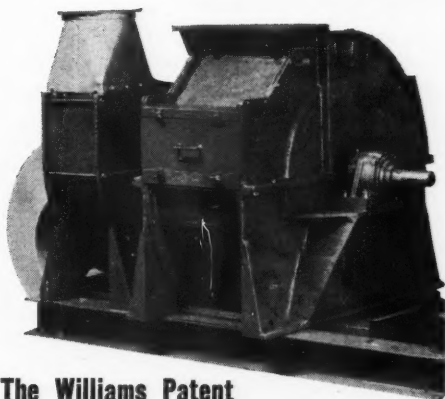
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2021 Pennsylvania

Kansas City, Mo.

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• Large Diameter • Slow Speed •



The Williams Patent
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The finest grinder on the market today. Unusually large diameter assures low bearing speed, only 1800 R.P.M., yet higher hammer tip speed than most 3600 speed mills. Long arc of contact between hammers and grinding plate — material thoroughly ground before discharged. Built in three standard sizes.

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OLDEST AND LARGEST BUILDERS OF HAMMERMILLS IN THE WORLD
WILLIAMS
PATENT CRUSHERS GRINDERS SHREDDERS

Interest of Mabel Loeb in the Loeb & Pairo advertising agency, Atlanta, Ga., has been sold to Virginia A. Pairo after an association of 18 years. Firm now becomes Pairo Advertising Agency.

* * * *

Expeller plant of Holland Pioneer Mills, Inc., Ohio City, Ohio, was damaged to the extent of \$30,000 by a windstorm in April. The firm was able to have the plant back in production within 5 weeks.

* * * *

Viking Pump Co., Cedar Falls, Iowa, is greatly expanding its production facilities with the construction of a building measuring 115 x 132 feet, and by making additional space available between the wings of the present machine shop. Completion is expected by early fall. Viking pumps include those built for soybean oils and foots.

* * * *

Alkydol Penta Resins is a new bulletin issued by Alkydol Laboratories, Inc., 3242 S. 50th Ave., Cicero 50, Ill. Three new hard resins—Nos. 103, 139 and 140—are described. They are used by the makers of varnishes and enamels, printing inks, adhesives and paper coatings.

* * * *

Emil F. Werly, former director of research for the W. C. Hardesty Co., Dover, Ohio, has joined the Pillsbury Mills research and products development department at Minneapolis as a chemical engineer. He will conduct pilot plant development relating to oilseeds and edible oils.

* * * *

W. R. McClayton, Baltimore, Md., has been appointed sales representative for General Mills, Inc. chemical division for Maryland and Washington, D. C. He will handle the company's complete line of vegetable, animal and marine fats and oils as well as all organic chemical derivatives for the technical trade.

* * * *

Claude Maurel of the National Institute of Soja, Paris, France, anticipates attending the American Soybean Association convention at Memphis, Tenn., in September, the *Soybean Digest* is informed. Maurel attended the Columbus convention in 1947.

* * * *

William V. Karr, of Karr & Co., Columbus 15, Ohio, is the father of a son, Robert Bruce, aged 3 months.

* * * *

W. I. Brockson, executive vice president of Gebhardt & Brockson, Inc., Chicago advertising agency, died May 15, according to word reaching the *Soybean Digest* from that firm.

* * * *

A new sales office headed by Neely J. Leake has been established in Cleveland by Bemis Bro. Bag Co. Mr. Leake is assisted by Robert C. Thomas, sales representative, and Miss Dorothea Haggerty, Cleveland office manager. Mr. Leake has been with Bemis for 28 years.

* * * *

P. H. Croggins of the Bureau of Agricultural and Industrial Chemistry, U. S. Department of Agriculture, recently predicted at a meeting of the Georgia section of the American Chemical Society creation of a large fabrics industry employing soybean and other fibers. This may reduce the nation's need for imported wool.

* * * *

Bookings on the technicolor margarine film, *Progress in Products*, had reached the large total of 1,600 June 1. There were bookings in all the 48 states, with California, Indiana, Pennsylvania and Texas each having well over 100. Film shows the part soybean and cottonseed oils play in margarine.

* * * *

Appointment of Paul D. Doolan as industrial sales manager of A. E. Staley Mfg. Co., Decatur, Ill., has been announced. Mr. Doolan, formerly the firm's general attorney, succeeds C. H. Davidson, resigned.

* * * *

Clyde C. McInnes of American Mineral Spirits Co. announced that the Mid-South Oil Co., Memphis, Tenn., has been appointed representative and distributor of "Amsco" extraction solvents. Ellis Woolfolk, president of Mid-South Oil Co., has placed Dave Bradford in direct supervision of petroleum solvent sales in the Memphis area.

* * * *

R. T. Milner, of the Northern Regional Research Laboratory, Peoria, Ill., was appointed editor of the *Journal of the American Oil Chemists' Society* at the society's annual meeting in New Orleans in May. He succeeds H. L. Roschen, who had been editor since 1937.



MARSHALL W. GEORGE

M. W. GEORGE PASSES

Marshall W. George, vice president of the B. I. Weller Co. of Chicago, passed away May 16th. Mr. George was born March 24, 1891 and is survived by his wife, Mrs. Maybell George, and three daughters, Mrs. J. I. Dennehy of Winnetka, Ill., Mrs. J. F. Magill of Simcoe, Canada and Mrs. M. E. Brinson of Winnetka, Ill.

During World War I he served as a pilot in the air force. At the close of the war he became associated with the H. O. Stone Co. and later with the LaSalle Extension University and Mills Realty, Inc.

In 1941 Mr. George joined the B. I. Weller Co. in the capacity of vice president and was widely known and highly respected in the grain, feed and flour industries.

— s b d —

ARKANSAS FIRE

Fire of undetermined origin destroyed the Arkansas Mills, West Memphis, Ark., soybean and feed processing plant May 7. Damage was estimated at about \$250,000. Plant Superintendent W. M. Jones said he thought a dust explosion caused the fire. A storage tank containing about 52,000 gallons of soybean oil was saved. The plant employed about 21 persons.

John A. Cooper, West Memphis planter and one of the owners, said the mill will be rebuilt as soon as possible. Bert Dickey, Earle, Ark., and R. N. Archer, Memphis, Tenn., are the other owners.

— s b d —

SOYBEAN' ROUNDTABLE

A roundtable discussion on soybeans and flax was held May 14 at the 19th annual convention of the Society of Grain Elevator Superintendents at Hotel Claypool, Indianapolis, Ind.

Those leading the roundtable: chairman, Harry Hanson, the Glidden Co., Chicago; vice chairman, A. V. Murray, Archer-Daniels-Midland Co., Buffalo; recorder, Henry Green, Pillsbury Mills, Inc., Clinton, Iowa; and presiding, John A. Mack, Standard Milling Co., Buffalo.

SOYBEAN DIGEST

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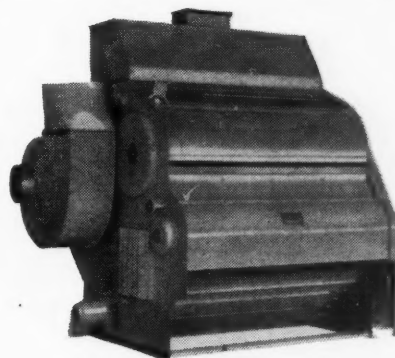
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L. D. 364

For
**ROUGH
SCALPING
of Soy Beans**

The SCALPERATOR

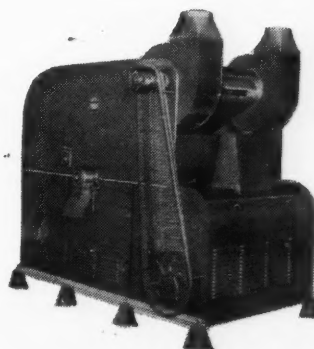
The Carter Scalperator can be profitably applied to the initial cleaning of soybeans to remove coarse and light foreign materials at relatively high capacity. Special controls can be applied to govern the volume of beans handled so as to coordinate with the volume required for drying. Also provides efficient scalping and aspiration of beans going directly to storage and serves as a cold-blasting unit on beans following the dryers. Sizes to fit your capacity needs. Write for catalog folder.



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SCALPING
of Soy Beans**

The MILLERATOR

The Carter Millerator is widely used for the screening and aspiration of soy beans before processing. It performs a refined scalping, removing material larger in diameter than the beans being handled and much of the material substantially larger. A second screen removes small seeds and sand. Controlled aspiration is used to remove light foreign materials. The second screen is often used for the removal of splits. Machine is all-metal, easy to control.



HART-CARTER COMPANY

660 Nineteenth Avenue N.E.
Minneapolis, Minnesota

WASHINGTON Digest

Army Buying Soy Products

The Army will be a big buyer of protein meals and oilseeds, probably soybeans, during the fiscal year starting July 1.

Army is reported to be seeking 50,000 long tons of protein meals for export to occupied Germany to help rebuild the livestock industry.

It is also said to be in the market, later this year, for about 200,000 bushels of oilseeds to export whole and crush overseas.

No allocations on either of these programs have been made to date. The Army won't be in a position to buy until the new fiscal year starts and it has additional funds.

Army needs have been tentatively discussed with USDA and Commerce Department officials. There's little question but what the desired allocations will be made later in the year.

In a series of recent USDA actions:

One hundred and thirty-five thousand pounds of soybean oil for Iceland (commercial procurement) have been substituted for an earlier allocation of cottonseed oil.

Ten thousand long tons of alfalfa meal have been put in the contingency reserve for European aid countries.

Fifteen thousand long tons of U. S. "surplus" linseed cake and meal (commercial procurement) have been allocated for European aid countries.

One hundred thousand pounds of soybean oil have been allocated to Reunion for emergency needs. Ninety thousand pounds of soybean oil for New Zealand, and 15,000 pounds for New Caledonia, were cancelled by these governments.

An allocation of 3.3 million pounds of soybean oil for The Netherlands was withdrawn, and inedible tallow substituted.

Soybean oil was substituted for cottonseed oil in the following allocations: 550,000

pounds for Denmark, 1,650,000 pounds for The Netherlands, 110,000 pounds for Finland—all commercial procurement.

New USDA Secretary

The appointment of Charles F. Brannan as Secretary of Agriculture assures continuity in Department of Agriculture policies through at least the remainder of this year.

Brannan will continue former Secretary Anderson's policies, but his methods of operating may be quite different. It's expected that Brannan, who is short on practical USDA business operations experience, will rely more than Anderson on the advice of his commodity experts.

No major changes in USDA personnel are anticipated—none in the fats and oils branch. Four key posts in PMA—three assistant administrators (one for Commodity Credit Corporation) and a deputy—will have to be filled.

Brannan also will have a hand in picking new board members for CCC. The Senate CCC charter bill, which is expected to pass, requires the CCC board to be appointed by the President. Presumably, the board will be named from within USDA.

The new Secretary's handling of CCC will be watched closely both by farm groups and the trades. CCC is the giant farmer bank which holds life and death powers over price supports, and wields an enormous influence over export programs.

Brannan is a man of high integrity and broad outlook. He has a USDA record of capable administration. He is reasonable in his dealings, makes himself accessible, and has nothing of the prima donna about him.

He is a Colorado man who came into USDA through the legal profession. He is an expert in his own right in western land and water development.

Under Brannan, farmers and trade groups

By PORTER M. HEDGE

Washington Correspondent for
The Soybean Digest



BRANNAN

will know pretty well where they stand all of the time. Once Brannan takes a position, he's apt to keep it.

Margarine Legislation

Time was the biggest factor in determining success of margarine tax repeal legislation as *The Digest* went to press. Here was the situation:

Repeal was assured if Congress decided to recess for the conventions and reconvene the session later. This was widely discussed, though by no means certain.

Time for repeal legislation to get through

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BROKERS TO THE SOYBEAN PROCESSOR

1908 FORTIETH ANNIVERSARY 1948

was running out if Congress went ahead with plans to adjourn the session June 19 as earlier planned.

The Senate finance committee had reported out the repeal bill favorably. But at the insistence of Senator Taft of Ohio, it added an amendment requiring labeling in public eating places.

Senate adoption of any amendment would automatically send the bill back to the House where it ran the risk of getting squeezed out in the legislative jam just before adjournment.

Margarine senators were confident they could beat down any other attempts to amend the bill. They thought they had enough strength to defeat the Taft amendment, if Senate action came so late the House wouldn't have a chance to act before adjournment.

If the Senate acted soon enough to give the House a week or more in which to handle the bill, margarine senators were inclined to let the Taft amendment go through, and take their chances on favorable House action.

Spread in Fats, Oils

The unusual price spreads this spring between vegetable oils compared with lard, and tallow and grease compared with coconut oil, are expected by BAE to narrow

down to a more normal relationship this summer.

Increased output of cottonseed oil this summer, and reduced lard production, will tend to result in substitutions of the lower-priced fats for the more expensive ones, says BAE.

"Consumers and bakers will tend to shift for the time being from vegetable oil shortening to lard. Soap makers will tend to reduce the percentage of coconut oil used in their products, and to increase the percentage of tallow and grease."

Prices of edible and soap fats and oils averaged about 12 percent above the calendar year 1947 in mid-May. The average for the balance of this year is expected to be above 1947—unless acre yields from 1948 crops are unusually high.

Price Bill

Congress intends to bring out a new farm price support bill during this session, but leave the controversial questions of revising parity and merging soil conservation activities to a later date.

House agriculture committee members think pretty well of the price provisions in the Senate's new long-range farm bill. But they want at least two modifications:

1. Keep the present parity formula instead of modernizing it as provided in the Senate bill.

Market Street

We invite the readers of THE SOYBEAN DIGEST to use "MARKET STREET" for their classified advertising. If you have processing machinery, laboratory equipment, soybean seed, or other items of interest to the industry, advertise them here.

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2. Give 60 to 90 percent of parity support prices to "Steagall" commodities as well as to the basic crops and wool.

In the Senate bill, non-basic commodities, including soybeans, are given zero to 90 percent of parity price guarantees at the discretion of the Secretary of Agriculture.

House farm leaders think the Steagall crops—those for which wartime productions increases were asked—should have a minimum level of support guaranteed, the same as the basics.



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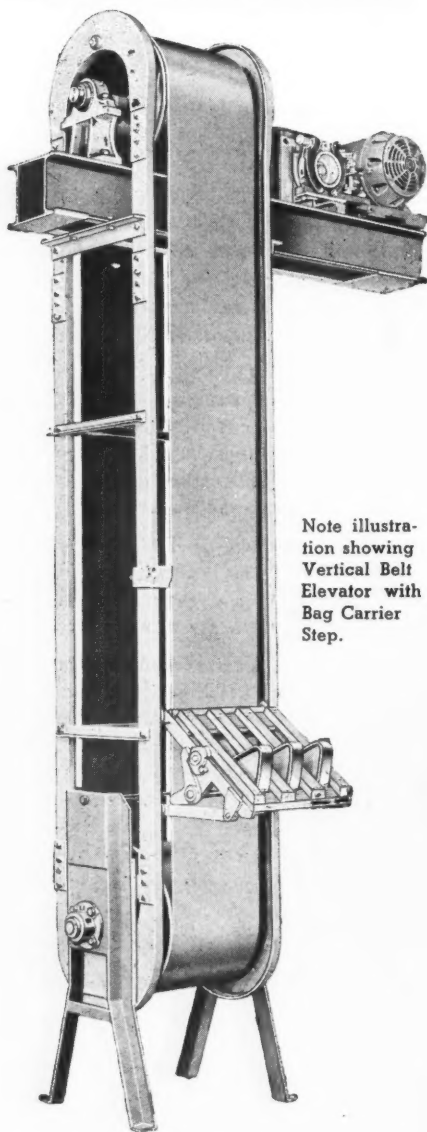
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GRAIN STANDARDS HEARINGS JUNE 23-30

The U. S. Department of Agriculture has announced that public hearings on proposed amendments to the official grain standards for soybeans will be held June 23-30 at Toledo, Ohio; Chicago, Ill.; Cedar Rapids, Iowa; and Decatur, Ill.

The hearings are in response to requests from dealers and producers to: (1) combine dockage with foreign material and retain the present maximum limits for foreign material or increase them 1 percent in each grade, (2) reduce the maximum limits for moisture 1 or 2 percent in each grade, and (3) increase the maximum limits for splits 5 percent in each of the numerical grades.

Department officials stated that the earliest possible effective date of any amendments to the standards at this time would be about November 1, 1948, since the U. S. Grain Standards Act requires public notice of

promulgation not less than 90 days in advance of the effective date.

Hearings will be held at:

Toledo, Ohio, June 23, 2:30 p.m., 3rd floor, Produce Exchange Building, St. Clair and Madison Avenues.

Chicago, Ill., June 25, 2:00 p.m., Room 660 Board of Trade Building.

Cedar Rapids, Iowa, June 28, 2:00 p.m., Assembly Room, Chamber of Commerce Building.

Decatur, Ill., June 30, 2:00 p.m., Decatur Club Building.

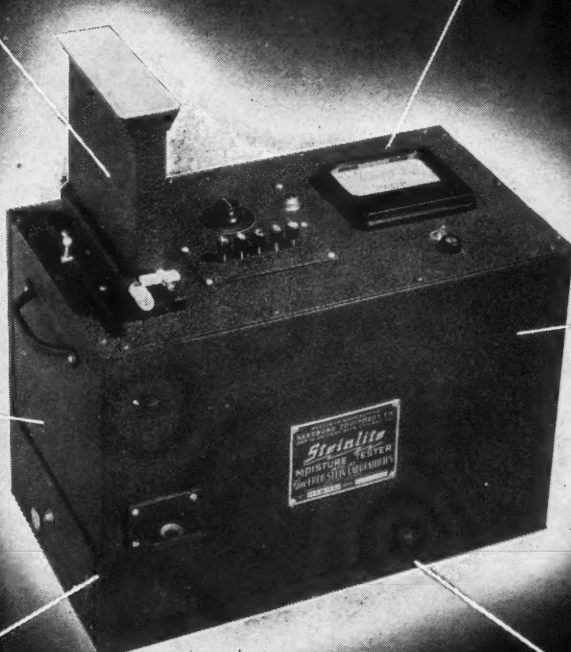
All persons interested may submit their views orally or in writing at the hearings or in writing to the director, grain branch, Production and Marketing Administration, U. S. Department of Agriculture, Washington 25, D. C., not later than July 10.



—By courtesy of St. Louis Post-Dispatch.
JACK AND THE SOYBEAN STALK

SOYBEAN DIGEST

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In The MARKETS

MAY MARKET TREND IS GENERALLY UPWARD

The month's trend in soybean, oil and oil meal markets was generally upward. There was considerable of a spurt in all three markets the middle of the month followed by weakness after the 19th.

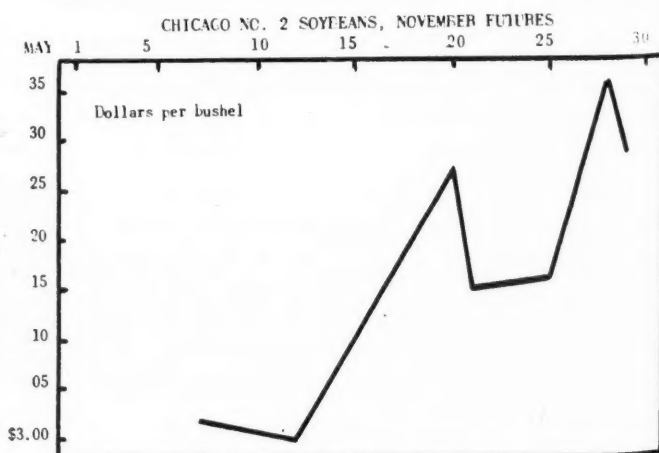
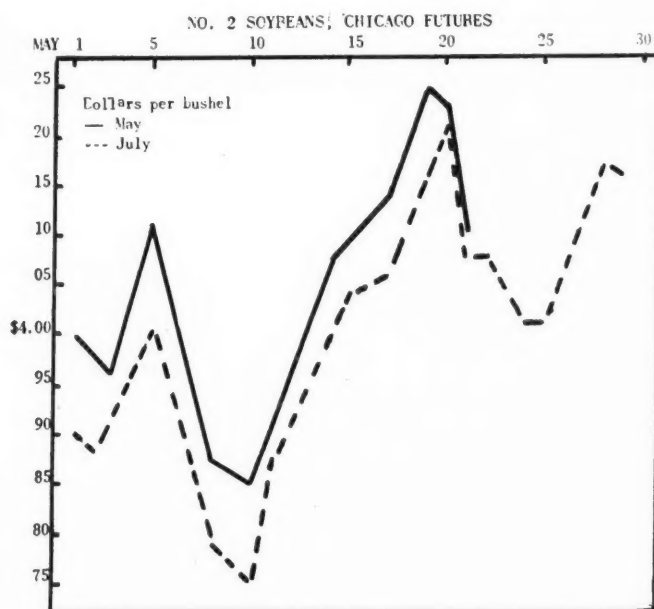
Gains in soybean futures were registered the first 5 days, and again from the 11th through the 19th. But substantial losses occurred between the 5th and the 11th, and the week following the 19th.

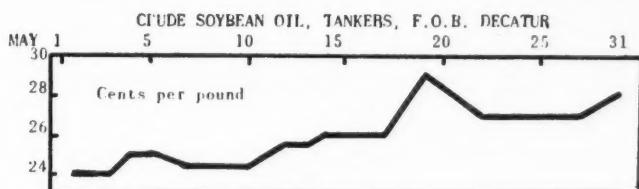
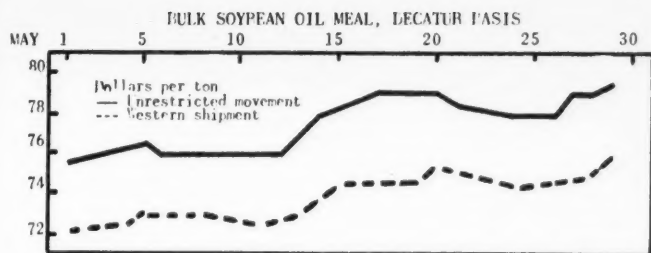
July and November futures again were moving up the last few days of May. Strengthening factors may have been prospective repeal of federal margarine laws, and the U. S. Army's record purchases of 206 million lbs. of soy flour.

But in spite of Army purchases of soy flour and some oil meal, processors were not anxious buyers. Cash markets were generally quiet.

July futures for No. 2 soybeans in Chicago opened at \$3.90. The high for the month was \$4.19 May 19, the low \$3.75 May 11. The month closed at \$4.16. High in May futures was \$4.25 May 19.

The oil meal market trend for the month was only slightly upward, with a narrow spread. Production was considerably curtailed with many of the large processors making soy flour for the





Army. Supplies apparently were ample to meet all commitments.

Bulk soybean oil meal, Decatur basis opened for the month at \$75, the low point, and closed at \$79.50.

The feature of the vegetable oil markets in May was the growing spread between soybean and cottonseed oils. In January cottonseed oil was being quoted at 1 to 2c per lb. higher than soybean oil. But by the middle of May cottonseed oil was quoted as much as 11c higher. Chicago quotations for crude cottonseed oil reached 40c May 19, an alltime high. Crude soybean oil was quoted at 29c the same day. Corn and peanut oils moved upward with cottonseed oil due to tight offerings of these products. Soybean oil, being more plentiful, tended to be tied to coconut oil.

The oil markets showed considerable weakness after the middle-of-the-month rise, with difficulty in buyers and sellers getting together. But there was renewed strength the last few days in May.

Trading in soybean oil was quite active much of the month.

Crude soybean oil in tankers, F.O.B. Decatur, was quoted at 24c May 1, and 29c May 19, the high point for the month. May closed at 28c.

MEMPHIS SOYBEAN OIL MEAL FUTURES CLOSINGS MAY 29*

July	84.00-85.00
October	flat 78.75
December	73.25-75.00
January	69.00-71.00
March	67.50-69.00

Sales: 400 tons.

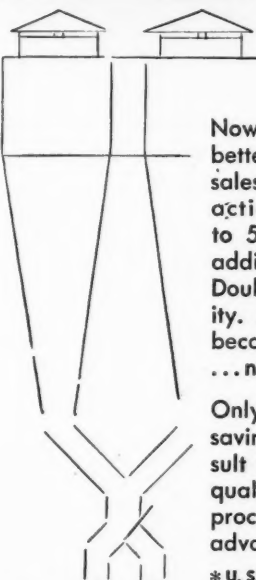
*From Chicago Journal of Commerce.

• **SOYBEAN CRUSHING.** Crashings of soybeans for oil, as reported by the Bureau of the Census, totaled 87.5 million bushels the first six months of this season. With the exception of last year when crashings totaled 91.3 million bushels this is the largest of record for these months. Reflecting the urgent demand for export, crushing of soybeans for flour and grits has been at a record rate this season and totaled 7.8 million bushels. This compares with less than 2¾ million in the same months last year and 2.9 million two years ago. Exports of soy flour in terms of grain equivalent totaled 6.3 million bushels October through March this season compared with 1.8 million the same months last season and 1.5 million two years ago. Exports of soybeans as grain have also been heavy totaling almost 1.9 million bushels the first half of the season. This compares with 3 million exported in the same months last year and 2.4 million two years ago. Disappearance of soybeans for feed and other uses totaled 9.2 million bushels the first half of this season compared with 8.2 million last year and 16 million the 1942-46 average.

• **SOYBEAN GLUE IN PLYWOOD.** Softwood plywood production for 1947 amounted to 1,700,446,000 square feet, an increase of 18 percent over 1946, according to the Bureau of the Census.

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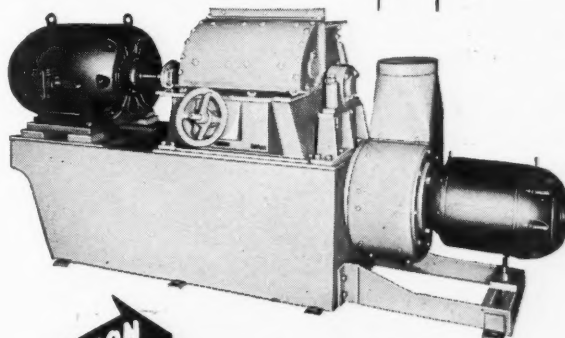
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Total consumption of soybean glue in 1947 by the plywood industry totaled 24,728,000 lbs., or 911,000 lbs. more than the 23,817,000 lbs. used in 1946.

Total consumption of other glues in 1947, with 1946 in parenthesis: phenolic resin 36,054,000 (24,743,000); casein 5,260,000 (5,488,000); other 2,899,000 (1,922,000).

Total consumption of all glue by the plywood industry in 1947 totaled 68,941,000 lbs. compared with 55,970,000 lbs. in 1946.

Total soybean glue consumed by the plywood industry in past years: 1945 22,473,000 lbs.; 1944 27,879,000 lbs.; 1943 26,086,000 lbs.; 1942 37,380,000 lbs.

Consumption of soybean glue by the industry in March was 2,605,000 lbs. compared with 2,095,000 lbs. in February. Consumption of phenolic resin glue in March was 4,310,000 lbs. compared with 3,673,000 lbs. in February. Consumption of all glues in March was 7,636,000 lbs.

● **SOYBEAN INSPECTIONS.** Inspected receipts of soybeans continued light with a total of 3,892 cars in April compared with 3,927 cars in March, according to reports to the Department of Agriculture. The average for the month of April for the crop years 1941-45 was 4,440 cars. Inspected receipts for October through April this season were 70,088 cars compared with 75,269 cars for the same period last year.

The quality of the soybeans inspected continued good, 88 percent grading No. 2 or better in April compared with 91 percent in March. Eighty-seven percent graded No. 2 or better for October-April this season compared with 70 percent last season.

Inspections of soybeans in April included the equivalent of 29 cars inspected as cargo lots and truck receipts equal to about 40 cars.

● **COMMERCIAL SOYBEAN STOCKS.** Production and Marketing Administration's commercial grain stock reports for May.

	May 3	May 10	May 17	May 25
Atlantic Coast	159	187	141	68
Gulf Coast		17	12	
Northwestern and				
Upper Lake	377	293	289	287
Lower Lake	2,239	1,912	1,593	1,502
East Central	764	666	594	450
West Central, South-				
western & Western ...	946	786	721	644
Total current week ...	4,485	3,861	3,350	2,951
Total year ago	8,059	7,042	6,320	5,198

● **STANDARD SHORTENING SHIPMENTS.** Reported by members of Institute of Shortening and Edible Oils, Inc., in pounds.

May 8	4,667,151
May 15	4,891,614
May 22	5,114,391
May 29	3,591,250

First quarter shipments of shortening and edible oil totaled 693,865,000 lbs., reports the Institute. Grand total of shortening and edible oil shipments for the calendar year 1947 was 2,642,482,000 lbs.

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